HP Insight Management 7.1 Update 1 Support Matrix

Abstract

This document lists the minimum hardware, firmware, and software requirements for installing and running HP Insight Management, integrated server management software.

HP Part Number: 411804-409d
Published: March 2013
Edition: 5

© Copyright 2009, 2010, 2011, 2012, 2013 Hewlett-Packard Development Company, L.P.
Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Acknowledgments

Adobe® and Acrobat® are trademarks of Adobe Systems Incorporated. AMD™ is a trademark of Advanced Micro Devices, Inc. Itanium® is a trademark of Intel Corporation in the U.S. and other countries. Microsoft®, Windows®, Windows XP®, and Windows Vista® are U.S. registered trademarks of Microsoft Corporation. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. UNIX® is a registered trademark of The Open Group.

Warranty

HP will replace defective delivery media for a period of 90 days from the date of purchase. This warranty applies to all Insight Management products.

Revision history for *HP Insight Management Support Matrix*, Publication Number (411804-409).

Edition	Publication date	Insight Management version	Edition notes
1	September 2012	7.1 Update 1	Initial publication
2	October 2012	7.1 Update 1	• Added support for VMware ESXi 5.1
3	December 2012	7.1 Update 1	• Corrected Insight Control performance management for RHEL 6.1 for Intel Itanium in Table 41: "Red Hat Enterprise Linux (RHEL)" (page 43) • Corrected Table 48: "Hypervisor hosts and VM guests" (page 47) • Added Matrix Operating Environment support for Microsoft System Center Virtual Machine Manager 2012 to Table 50: "Virtualization Management Environment software" (page 51)
4	January 2013	7.1 Update 1	• Added support for Integrity BL860c i4, BL870c i4, and BL890c i4 servers
5	March 2013	7.1 Update 1	• Corrected Insight Remote Support in Table 13: "Hypervisors supported for running a CMS in a VM guest" (page 13) • Updated 3PAR InForm OS versions in Table 28: "Supported storage hardware" (page 30)

Contents

1 New and deprecated support....5
New software support....5
Deprecated software support....5
New hardware support....5
Servers that can be managed by Insight Management....5
Deprecated hardware support....6
2 Central Management Server requirements....7
CMS hardware requirements....7
Memory requirements....7
Disk space requirements....8
Management capabilities of a CMS with a maximum tested configuration....9
CMS firmware requirements....10
CMS software requirements....10
Supported Microsoft Windows operating systems....10
Supported hypervisors....12
Requirements of non-OS software....14
Supported browsers....15
Recommended screen resolution....15
Supported databases....15
Supported CMS configurations in a Microsoft Windows domain....16
3 Central Management Server requirements in a high-availability environment....19
Supported cluster environments....19
Insight Management components supported in a highly available environment....19
Cluster configuration requirements....20
Unsupported items in a CMS cluster configuration....20
4 Hardware requirements for managed systems....21
Public cloud providers....21
Supported HP BladeSystem enclosures....21
Supported servers....21
HP ProLiant servers....21
HP Integrity servers....27
Other HP servers....29
Third-party servers....29
Supported hardware storage products....30
Fibre channel storage and switch recommendations....32
iSCSI SAN....32
iSCSI targets as backing storage for VM guests....32
iSCSI device references....32
iSCSI LAN/VLAN switches....33
Storage options for virtual machine guests....33
Matrix OE storage support....33
Storage support for Matrix OE Provisioning....34
Storage support for Matrix recovery management....34
HP Virtual Connect Enterprise Manager hardware requirements....35
Other supported hardware....35
5 Managed system firmware requirements....36
Service Pack for ProLiant....36
ProLiant Support Pack....36
Integrity Support Packs....37

Insight Management firmware recommendations....37
6 Software requirements for managed systems....38
HP software integration requirements....38
Supported operating systems....38
Microsoft Windows....38
Linux....43
HP-UX, HP NonStop, and HP OpenVMS....45
AIX, Solaris, and Netware....46
Supported hypervisor hosts and VM guests....47
HP Capacity Advisor Consolidation software requirements....51
7 Agent and provider requirements for managed systems....52
Agents and providers bundled with Matrix OE....52
Agents and providers for OpenVMS managed systems....53
8 Support and other resources....55
Information to collect before contacting HP....55
How to contact HP....55
Registering for software technical support and update service....55
How to use your software technical support and update service....55
Warranty information....56
HP authorized resellers....56
Documentation feedback....56
New and changed information in this edition....56
Related information....56
Typographic conventions....57
A Hardware requirements and supported capabilities for Insight Control power management....58
Power management capabilities....58
Server requirements and supported capabilities for Insight Control power management....58
Supported power-delivery devices for Insight Control power management....67
B Hardware requirements and caveats for Insight Control server migration....69
Storage controllers that Insight Control server migration supports....69
Converged network adapters that Insight Control server migration supports....71
Network interface cards that Insight Control server migration supports....71
File system types that Insight Control server migration supports....74
Caveats for Microsoft Windows server migrations....74
Caveats for Linux server migrations....74
Supported storage adapters for manual boot of a destination virtual machine....74
C HP-UX CMS requirements....75
HP-UX CMS requirements....75
Agents and providers bundled with the Matrix Operating Environment....78
Acronyms and abbreviations....79
Index....82

1 New and deprecated support

New software support

This release introduced support for new versions of already-supported software on the Central Management Server (CMS) and managed systems.

Table 1 New software support

Software type	CMS software	Managed system software
Databases	None	N/A
Operating systems	None	• Red Hat Enterprise Linux 6.3
Hypervisors	• VMware ESX 4.1 Update 3 • VMware ESXi 4.1 Update 3 • VMware ESXi 5.1	• VMware ESX 4.1 Update 3 • VMware ESXi 4.1 Update 3 • VMware ESXi 5.1 • KVM on RHEL 6.3 • HP-UX 11i v3 1209
Virtualization management software	None	• VMware vCenter Server v4.1 Update 3 • VMware vCenter Server v5.0 Update 1b • VMware vCenter Server v5.1

Deprecated software support

This release deprecated support for some software on the CMS and managed systems.

Table 2 Deprecated software support

Software type	CMS software	Managed system software
Databases	None	N/A
Operating systems	None	None
Hypervisors	None	None
Virtualization management software	None	N/A

New hardware support

This release introduced support for the following hardware.

Servers that can be managed by Insight Management

HP ProLiant servers:

- HP ProLiant BL660c Gen8
- ProLiant WS460c Gen8 WS Blade
- HP ProLiant DL320e Gen8
- HP ProLiant DL560 Gen8
- ProLiant ML310e Gen8

- HP ProLiant SL270 Gen8
- HP ProLiant SL4540 Gen8
- HP ProLiant SL4545 G7

HP Integrity servers:

- HP Integrity rx2800 i4
- HP Integrity BL860c i4
- HP Integrity BL870c i4
- HP Integrity BL890c i4

Deprecated hardware support

None in this release.

2 Central Management Server requirements

This chapter provides the minimum hardware and software requirements for a CMS running a supported Microsoft Windows operating system (OS).

CMS hardware requirements

Table 3 (page 7) lists the hardware requirements for a single-server CMS.

Table 3 CMS hardware requirements

Hardware component	Requirement
Server	Any supported HP ProLiant server that fulfills the CPU, memory, and disk space requirements specified in this chapter. HP Systems Insight Manager, HP Insight Control virtual machine management, and the HP Matrix Operating Environment (Matrix OE) also support operating a CMS in a virtual machine on some non-HP servers. This configuration requires the CMS to be running a supported operating system listed in"Supported Microsoft Windows operating systems" (page 10) and a supported hypervisor listed in "Supported hypervisors" (page 12).
Processor	At least 1.6 GHz (2 GHz or faster recommended). For Matrix OE, four or more processing cores are required with a minimum of 1.6 GHz processors. The recommended configuration is eight processing cores at 2.4 GHz or later. For HP Insight Remote Support, a 2.4 GHz processor is required to manage up to 500 devices.
Memory	For memory requirements, see Table 4 (page 7).
Disk space	For disk space requirements, see Table 5 (page 8).
File structure	NTFS
DVD drive	Local or mapped DVD drive or an ISO mounting utility

NOTE: For the requirements for configuring the CMS as a two-node Failover Cluster , see "Central Management Server requirements in a high-availability environment" (page 19).

For the requirements for an Integrity-based CMS running an HP-UX OS, see "HP-UX CMS requirements" (page 75).

Memory requirements

Table 4 (page 7) lists the memory requirements on the CMS, which differ for 32-bit (x86) and 64-bit (x64) operating systems and differ based on whether Matrix OE is being installed.

Table 4 CMS memory requirements

Operating system architecture	Installation scenario	Required minimum memory[1]	Recommended memory[2]
x86	Systems Insight Manager and HP Insight Control	6 GB	8 GB
x64	Systems Insight Manager and Insight Control	8 GB	16 GB
	Systems Insight Manager, Insight Control, and Matrix OE	16 GB	24 GB
	Standalone installation of HP Virtual Connect Enterprise Manager (VCEM)	6 GB	8 GB

[1] A warning message displays if the amount of memory is below this value, but the installation or upgrade will continue. However, the physical memory (RAM) on a CMS must equal at least 4 GB on an x86 system or at least 6 GB on an x64 system, otherwise the HP Insight Management installation or upgrade will not proceed.

[2] Performance will be less than optimal if the CMS does not have the recommended amount of memory.

NOTE: HP Insight Remote Support requires a minimum of 5 GB RAM (6 GB is recommended) to manage up to 100 devices. It requires 8 GB RAM to manage up to 500 devices.

Disk space requirements

Table 5 (page 8) lists the amount of available disk space on the CMS that is required to install or upgrade Insight Management. The amount of available disk space depends on the software products you select as well as the type of installation that is being performed (that is, a new installation of a product, an upgrade of an existing product, or reuse of the same version of an existing installed product).

If you are installing Insight Management on an alternate drive (that is, not the system drive where the OS is installed), the HP Insight Management Installer needs an additional 8 GB of temp space. The Insight Management Installer looks in the User temp location, so if an additional 8 GB is not available, change the User temp variable to point to another location that has 8 GB of available space. However, when you are installing on an alternate drive, the system drive still needs at least 1 GB of available disk space.

IMPORTANT: For an upgrade, the required disk space must be available on the original installation drive. Be sure to check requirements before you begin an upgrade, because you might need to expand the available space.

Table 5 CMS disk space requirements

Installation scenario	Required disk space
Upgrade or reuse of all currently installed instances of Insight Management	10 GB
Upgrade or reuse of Systems Insight Manager and Insight Control server deployment in combination with new installations or upgrades of other products. The Insight Management Installer dynamically calculates the disk space requirements based on the component selections.	15 GB
New installation of Systems Insight Manager or new installation of Insight Control server deployment (but not simultaneously) in combination with new installations or upgrades of other products.	18 GB
New installation from Insight Management DVD.	20 GB

Table 6 (page 8) lists additional disk space considerations.

Table 6 CMS disk space considerations

Software component	Disk space requirement
Insight Control power management	Disk space is consumed by the storage of power history data for each supported system. HP recommends allocating 12 MB per system per year of history. For example, a total of 2000 power managed systems, monitored PDUs/PDRs, and associated racks and data centers consume approximately 24 GB of disk space for one year of power history data. This disk space is consumed on the Microsoft SQL Server database server.
Insight Control server deployment	The recommended disk space listed in Table 5 (page 8) accounts for three operating systems to copy. If you want to copy more than three operating systems, each additional OS needs approximately 4 GB of disk space.
HP Capacity Advisor	Additional disk space is required for each workload to collect and preserve data for use by HP Capacity Advisor.

Table 6 CMS disk space considerations *(continued)*

Software component	Disk space requirement
	For the default retention period of four years: • Allocate 64.5 MB for each workload on each Windows or Linux managed system to support agentless data collection. • Allot 34.7 MB for each workload on each HP-UX managed system.
HP Global Workload Manager (gWLM)	Requires at least 1 GB of disk space. If you intend to keep historical data, HP recommends allowing 4 GB for every 100 workloads managed by the Global Workload Manager. If you are not interested in historical data, use the `gwlm history --truncate` command to trim the historical database. This space will be allocated on the Microsoft SQL Server database server.
HP Insight Remote Support	For managing up to 100 devices: • 1 GB free disk space for normal operation • 2 GB available disk space to install all software components For managing up to 500 devices: • 150 GB for normal operation For recommendations on increased disk space requirements depending on how many devices you are managing, see the *HP Insight Remote Support Release Notes*: http://www.hp.com/go/insightremotesupport

Management capabilities of a CMS with a maximum tested configuration

Table 7 (page 9) lists the management capabilities supported by the recommended x64 CMS configuration that is running eight processing cores at 2.4 GHz with 24 GB RAM and 50 GB disk space and a separate remote database server that is running with eight processing cores at 2.4 GHz with 16 GB RAM and 50 GB of disk space.

Table 7 CMS management capabilities

Item	Maximum configuration on an x64 CMS
Number of managed systems (physical servers and virtual machines)	• Systems Insight Manager: 5,000 • Insight Control: 5,000 • Matrix OE: 2,500 • Insight managed system setup wizard: 1,500
Concurrent users on the Systems Insight Manager console	15 concurrent users who are running general operations and one administrator task
Virtual machine hosts	Virtual Machine host counts can vary greatly because of the load factors of VMs on hosts. The virtual machine guest/host count is limited only by the overall supported limits of managed systems for HP SIM, Insight Control, and Matrix OE. HP has qualified 70 virtual machine hosts through one CMS with Insight Control and Matrix OE functionality.
Monitoring (by Systems Insight Manager and Insight Control performance management)	Simultaneous analysis of 3,000 managed systems
Power management	5,000 managed systems; 300 monitored PDUs/PDRs
Disaster recovery	Supports up to 2,500 disaster recovery-protected logical servers in a two-site configuration. The total of 2,500 logical servers can include a combination of up to 500 physical (Virtual Connect) or virtual machines provisioned through LSM,

Table 7 CMS management capabilities *(continued)*

Item	Maximum configuration on an x64 CMS
	and up to 2,500 ESX virtual machines provisioned through IO services. Configurations using only Hyper-V virtual machines provisioned through IO services or in combination with ESX VMs and/or other servers provisioned through LSM are limited to a total of 1,500 DR-protected logical servers. For additional information, see the *HP Matrix Operating Environment Recovery Management User Guide*.
Logical servers	2,500 managed systems with 60 overlapping provisions of one logical server each and six overlapping provisions of five logical servers each
Capacity Advisor Data Collection	• Capacity planning data collected for 1,500 nodes • Automated recommendations for 500 workloads in <15 minutes • Detailed reports for 150 systems in <15 minutes • Summary reports for 1,000 systems in <10 minutes
Virtual Connect Enterprise Manager domains	Up to 250 single or multi-enclosure domains, up to a total of 1,000 BladeSystem c-Class enclosures

CMS firmware requirements

Table 8 Recommended firmware requirements for Insight Management

Item	Recommended firmware version
Service Pack for ProLiant	2012.08.0
Onboard Administrator (OA) on the following HP BladeSystem enclosures: • c3000 • c3000 tower enclosure • c7000	3.60, but version 3.55 is supported.
Virtual Connect for BladeSystem c-Class	3.70
NOTE: To download Virtual Connect firmware only, go to the following website: http://h18004.www1.hp.com/products/blades/components/vc-interconnects.html For Virtual Connect firmware compatible with the Virtual Connect Enterprise Manager, see the *HP Virtual Connect Enterprise Manager User Guide* at the following website: http://www.hp.com/go/insightmanagement/sim/docs	
HP iLO 2 (iLO 2) for ProLiant BladeSystem	2.12
HP iLO 3 (iLO 3) Advanced for ProLiant BladeSystem	1.28(B)
iLO 4 Advanced for ProLiant BladeSystem	1.10
Baseboard Management Controller (BMC) Firmware	5.38
HP Smart Update Manager (HP SUM)	5.2.0

CMS software requirements

Supported Microsoft Windows operating systems

This section lists the Microsoft Windows operating systems that are supported on the CMS.

In addition to U.S. English, the most recent service packs for the French, German, Italian, Spanish, and Japanese language versions of the Windows Server operating systems listed in Table 9 (page 11), Table 10 (page 12), and Table 11 (page 12) are supported on the CMS. Furthermore,

Systems Insight Manager and Insight Control server deployment also supports the Simplified Chinese version of Microsoft Windows Server 2003 and Windows Server 2008 operating systems. Systems Insight Manager also supports the Traditional Chinese and Korean language versions of these operating systems.

Table 9 Microsoft Windows Server 2008 OS support on a CMS

Operating system version	Insight Management					
	Insight Management Installer	Systems Insight Manager	Insight Control	Matrix OE	VCEM	Insight Remote Support
Standard editions						
Microsoft Windows Server 2008 Standard Edition SP2, x64[1]	✓	✓	✓	✓	✓	✓
Microsoft Windows Server 2008 R2 Standard Edition[2]	✓	✓	✓	✓	✓	✓
Microsoft Windows Server 2008 R2, Standard Edition SP1[2]	✓	✓	✓	✓	✓	✓
Datacenter edition						
Microsoft Windows Server 2008 R2 Datacenter Edition		✓				
Microsoft Windows Server 2008 R2 Datacenter Edition SP1		✓				
Enterprise editions						
Microsoft Windows Server 2008 Enterprise Edition SP2, x64[3]	✓	✓	✓	✓	✓	✓
Microsoft Windows Server 2008 R2 Enterprise Edition	✓	✓	✓	✓	✓	✓
Microsoft Windows Server 2008 R2 Enterprise Edition SP1[3]	✓	✓	✓	✓	✓	✓
Small Business Server editions						
Microsoft Windows Small Business Server 2008		✓				
Microsoft Windows Small Business Server 2008 SP2 (x64)						✓
Windows Small Business Server Standard 2008 SP2 Standard Edition (x64)		✓				✓
Windows Small Business Server 2008 SP2 Premium Edition 2008 (x64)		✓				✓
Storage Server editions						
Microsoft Windows Storage Server 2008		✓				✓
Microsoft Windows Storage Server 2008 Standard Edition SP2 (x64)		✓				✓
Microsoft Windows Storage Server 2008 Enterprise Edition SP2 (x64)		✓				✓
Web Server editions						

Table 9 Microsoft Windows Server 2008 OS support on a CMS *(continued)*

Operating system version	Insight Management					
	Insight Management Installer	Systems Insight Manager	Insight Control	Matrix OE	VCEM	Insight Remote Support
Microsoft Windows Web Server 2008						✓
Microsoft Windows Web Server 2008 SP2, (x64)		✓				✓
Microsoft Windows Server 2008 R2, Web Edition SP1		✓				

[1] Microsoft Windows Server 2008 Standard Edition SP2 supports a maximum of 32 GB memory.

[2] The Standard Edition of Windows Server 2008 R2 supports a maximum of 32 GB memory and four CPU sockets.

[3] HP recommends that you use the Enterprise Edition as the CMS operating system.

Table 10 Microsoft Windows Server 2003 OS support on a CMS

Operating system version	Insight Management					
	Insight Management Installer	Systems Insight Manager	Insight Control	Matrix OE	VCEM	Insight Remote Support
Microsoft Windows Server 2003 R2 Standard Edition SP2, x86	✓	✓	✓[1]			[2]

[1] Supported only by HP Insight Control power management.

[2] HP Insight Remote Support Advanced (RSA) 5.60 and 5.70 are supported on this operating system. Insight Remote Support 7.0.5 is not supported on this operating system.

Table 11 Microsoft Windows 7 OS support on a CMS

Operating system version	Insight Management					
	Insight Management Installer	Systems Insight Manager	Insight Control	Matrix OE	VCEM	Insight Remote Support
Microsoft Windows 7 SP1 Enterprise Edition (x64 only)		✓				
Microsoft Windows 7 SP1 Professional Edition (x64 only)		✓				

Table 12 Microsoft Windows Vista OS support on a CMS

Operating system version	Insight Management					
	Insight Management Installer	Systems Insight Manager	Insight Control	Matrix OE	VCEM	Insight Remote Support
Microsoft Windows Vista SP2 Business Edition (x64 only)		✓				
Microsoft Windows Vista SP2 Enterprise Edition (x64 only)		✓				

Supported hypervisors

Table 13 (page 13) lists the hypervisors that are supported for running a CMS in a VM guest. The CMS must be running one of the supported Microsoft Windows operating systems listed in "Supported Microsoft Windows operating systems" (page 10).

Table 13 Hypervisors supported for running a CMS in a VM guest

Hypervisor version	Insight Management					
	Insight Management Installer	Systems Insight Manager	Insight Control	Matrix OE	VCEM	Insight Remote Support
Microsoft						
Microsoft Windows Server 2008 SP2 with Hyper-V	✓	✓	✓	✓	✓	
Microsoft Windows Server 2008 R2 with Hyper-V	✓	✓	✓	✓	✓	
Microsoft Windows Server 2008 R2 SP1 with Hyper-V	✓	✓	✓	✓	✓	
Microsoft Hyper-V Server 2008 SP2	✓	✓	✓	✓	✓	
Microsoft Hyper-V Server 2008 R2	✓	✓	✓	✓	✓	
Microsoft Hyper-V Server 2008 R2 SP1	✓	✓	✓	✓	✓	
VMware						
VMware ESX 4.0 Update 2	✓	✓	✓	✓	✓	✓[1]
VMware ESX 4.0 Update 3	✓	✓	✓[2]	✓[3]	✓	✓[1]
VMware ESX 4.0 Update 4	✓	✓	✓[2]	✓[3]	✓	✓[1]
VMware ESX 4.1 Update 1	✓	✓	✓	✓	✓	✓[1]
VMware ESX 4.1 Update 2	✓	✓	✓	✓	✓	✓[1]
VMware ESX 4.1 Update 3	✓	✓	✓[4]	✓	✓[5]	✓[1]
VMware ESXi 4.0 Update 2	✓	✓	✓[6]	✓	✓	✓[1]
VMware ESXi 4.0 Update 3	✓	✓	✓[2, 6]	✓[3]	✓	✓[1]
VMware ESXi 4.0 Update 4	✓	✓	✓[2]	✓[3]	✓	✓[1]
VMware ESXi 4.1 Update 1	✓	✓	✓[6]	✓	✓	✓[1]
VMware ESXi 4.1 Update 2	✓	✓	✓[6]	✓	✓	✓[1]
VMware ESXi 4.1 Update 3	✓	✓	✓[4]	✓	✓[5]	✓[1]
VMware ESXi 5.0	✓	✓	✓[6]	✓[7]	✓	✓[1]
VMware ESXi 5.0 Update 1	✓	✓	✓[6]	✓[7]	✓	✓[1]
VMware ESXi 5.1	✓	✓	✓[6]	✓[7]	✓	

[1] Although the hosting server for Insight Remote Support Advanced supports a VMware ESX or ESXi virtual server, this support extends only to stationary VM guests. VMware VM guest mobility capabilities such as vMotion are not supported.

[2] Neither Insight Control power management nor Insight Control server deployment supports this hypervisor.

[3] Capacity Advisor does not support this hypervisor.

[4] This hypervisor is supported under Insight Control server migration, HP Insight Control performance management, Insight Control power management, and Insight Control virtual machine management, but not under HP Insight Control server deployment.

[5] Virtual Connect Enterprise Manager supports this hypervisor if it hosts a Microsoft Windows 2008 64-bit VM.

[6] The Data Center Power Control (DCPC) OS shutdown function is not supported under this hypervisor.

[7] For Matrix infrastructure orchestration, only the stateless VMware Auto Deploy method can be used.

Requirements of non-OS software

Table 14 (page 14) lists the minimum requirements of non-OS software on the CMS.

Table 14 Requirements of non-OS software

Software product	Version	Notes
Microsoft .NET Framework[1, 2]	2.0 SP1	If .NET 2.0 SP1 is not already installed, the HP Insight Management Installer installs it. This is a requirement of the HP Insight Management Installer and of HP Matrix Operating Environment infrastructure orchestration.
	3.5 SP1	This is required when using the Microsoft SQL Server 2008 R2 Express SP1 database server from the Installation DVD. This is also a requirement of HP Matrix Operating Environment infrastructure orchestration and HP Matrix Operating Environment.
	4.0	This is a requirement of the HP Insight Control server deployment and the HP Storage Provisioning Manager.
ASP.NET service	4.0	This is a requirement of HP Insight Control server deployment.
Adobe Acrobat Reader		You must have Adobe Acrobat Reader to read PDF documents shipped on HP Insight Management DVD #1. You must have Adobe Acrobat Reader installed to view PDF files. This free reader is available at: http://get.adobe.com/reader
Adobe Flash Player		Insight Management requires Adobe Flash Player, which is included with Systems Insight Manager on the Insight Management 7.1 DVD. All Flash players are for x86 browsers only. You can run an x86 browser on an x64 OS.
Microsoft Silverlight [3]	4.0	Silverlight application framework is a requirement of the HP Storage Provisioning Manager.
Microsoft iSCSI Software Initiator		iSCSI Software Initiator is a requirement of Insight Control server migration.
TCP/IP with DNS installed		Installed system names must resolve to an IP address, and IP addresses must resolve to system names.
Microsoft Windows Automated Installation KIT (WAIK)	1.1	If you are installing Insight Control server deployment, you are prompted for the location of the WAIK files only if WAIK 1.1 is not already installed. WAIK is the automated installation kit for Microsoft Windows Server 2008, and is, available at the Microsoft website. Installing Insight Control server deployment on Microsoft Windows operating systems localized in Italian or Spanish requires the English Microsoft WAIK. The localized Italian or Spanish Microsoft WAIK does not support WinPE IA-64, which is required to install Insight Control server deployment.
Windows Installer	4.5 or later	This is requirement for the installation or upgrade of the database packaged in the DVD. This is a requirement of Microsoft SQL Server 2008 R2 Express SP1.

[1] Microsoft .NET Framework 4.0 can be installed and present on the CMS, but it cannot be set as the default.

[2] Only Microsoft .NET 2.0 SP1 is included on the Insight Management DVD. All other versions must be installed separately.

[3] Microsoft Silverlight does not support the Firefox browser on a Windows Server 2008 R2 operating system.

Supported browsers

Table 15 (page 15) lists the browser versions that are required for browsing into Insight Management.

Table 15 Supported browsers

Browser	Insight Management					Supports Flash Player?
	Systems Insight Manager	Insight Control	Matrix OE[1]	VCEM	Insight Remote Support	
Microsoft						
Microsoft Internet Explorer 8.0	✓	✓[2]	✓	✓[3]	✓	✓
Microsoft Internet Explorer 9.0	✓	✓[4]	✓	✓[3]	✓	✓[5]
Mozilla						
Mozilla Firefox 9.x[6]	✓	✓[7]	✓	✓	✓	✓
Mozilla Firefox 10.0.x ESR (Extended Support Release)	✓	✓[7]	✓	✓	✓	✓

[1] HP Storage Provisioning Manager requires that the browser runs on a Windows platform.

[2] For Insight Control power management to operate properly, you must install the SSL certificate. If you do not install the certificate, and you see a pop-up window with a warning, expand the window and select **Continue to this website (not recommended)**.

[3] For browser compatibility with Virtual Connect firmware, see the *HP Virtual Connect Enterprise Manager User Guide* at the following website: http://www.hp.com/go/insightmanagement/sim/docs

[4] This browser is not supported for Insight Control server deployment.

[5] Flash is supported in 32-bit mode only.

[6] Firefox is supported on Linux and Microsoft Windows systems.

[7] Insight Control server deployment does not support Firefox.

Recommended screen resolution

The minimum supported screen resolution on the CMS is 800x600 pixels, but HP recommends 1280x1024.

Supported databases

Insight Management requires a supported database for the CMS. If the CMS does not currently have a supported database installed on it or does not have access to a remote database, you must install a database before you install Insight Management.

IMPORTANT: Insight Management requires the Microsoft SQL Server database to be configured in non-binary collation mode. Binary collation mode is not supported.

For information on how to change the collation mode if it is set to binary mode, see the *HP Insight Management Installation and Configuration Guide* at the following website:

http://www.hp.com/go/insightcontrol/docs

If you must install a database, Microsoft SQL Server 2008 R2 Express SP1 (32-bit) is included on HP Insight Management DVD #1.

NOTE: Microsoft SQL Server is available in both 32-bit and 64-bit versions. Insight Management only carries the 32-bit version of SQL Server 2008 R2 Express SP1. Thus, it only installs a 32-bit SQL Server Express version as a fresh install. You must manually upgrade all installed SQL Server editions and versions, including 64-bit versions, to an edition and version listed in Table 16 (page 16).

Table 16 Supported databases

Database name and version	Supported as a local database	Supported as a remote database
Microsoft SQL Server (unless otherwise noted, both 32-bit and 64-bit versions are supported)		
Microsoft SQL Server 2008 SP2 Standard[1]	✓	✓
Microsoft SQL Server 2008 SP3 Standard[1]	✓	✓
Microsoft SQL Server 2008 R2 Standard	✓	✓
Microsoft SQL Server 2008 R2 Standard SP1	✓	✓
Microsoft SQL Server 2008 Enterprise SP2[1]	✓	✓
Microsoft SQL Server 2008 Enterprise SP3[1]	✓	✓
Microsoft SQL Server 2008 R2 Enterprise	✓	✓
Microsoft SQL Server 2008 R2 Enterprise SP1	✓	✓
Microsoft SQL Server 2008 R2 Express (32-bit only)	✓	
Microsoft SQL Server 2008 R2 Express SP1	✓	
Microsoft SQL Server 2012 Standard	✓[2]	✓[2]
Microsoft SQL Server 2012 Enterprise[2]	✓[2]	✓[2]
Microsoft SQL Server 2012 Business Intelligence	✓[2]	✓[2]
Microsoft SQL Server 2012 Web	✓[3]	✓[3]
Oracle		
Oracle 10g R2 (10.2.0.3)	✓[3]	✓[3]
Oracle 11g Enterprise Edition Release 2	✓[3]	✓[3]
HP PolyServe Software		
HP PolyServe Software for Microsoft SQL Server		✓[3]

[1] Supports up to 5,000 systems and 50,000 events.

[2] Only Systems Insight Manager and HP Insight Control support this database.

[3] Only Systems Insight Manager supports this database.

Supported CMS configurations in a Microsoft Windows domain

HP recommends that you adhere to the following guidelines for your single-server CMS configuration:

- Do not install Insight Management on domain controllers.
- If one server is in a workgroup, make sure that each server has a local account with the same name and password (both for services and database credentials).
- Do not install Insight Control server deployment and the HP ProLiant Server OS Deployment Toolkit for Microsoft System Center Configuration Manager (part of HP Insight Control for Microsoft System Center) in the same subnet. Both of these provide their own separate PXE boot services, and networking issues can arise if both are installed on the same subnet at the same time.
- Do not install Insight Control server deployment and an HP Ignite-UX server on the same subnet.
- Matrix OE uses Microsoft Windows Single Sign-On (SSO) authentication for the Matrix OE services/processes database connectivity. HP recommends that you use the same Microsoft

Windows domain account credentials for both the Systems Insight Manager installation, the Matrix OE installation, and the database access.

A CMS configuration can contain two separate databases, which can be local or remote:

- A **CMS database** for the CMS to store information about all managed devices
- A **deployment server database** that stores the inventory and state information about managed systems (if you install the Insight Control server deployment software)

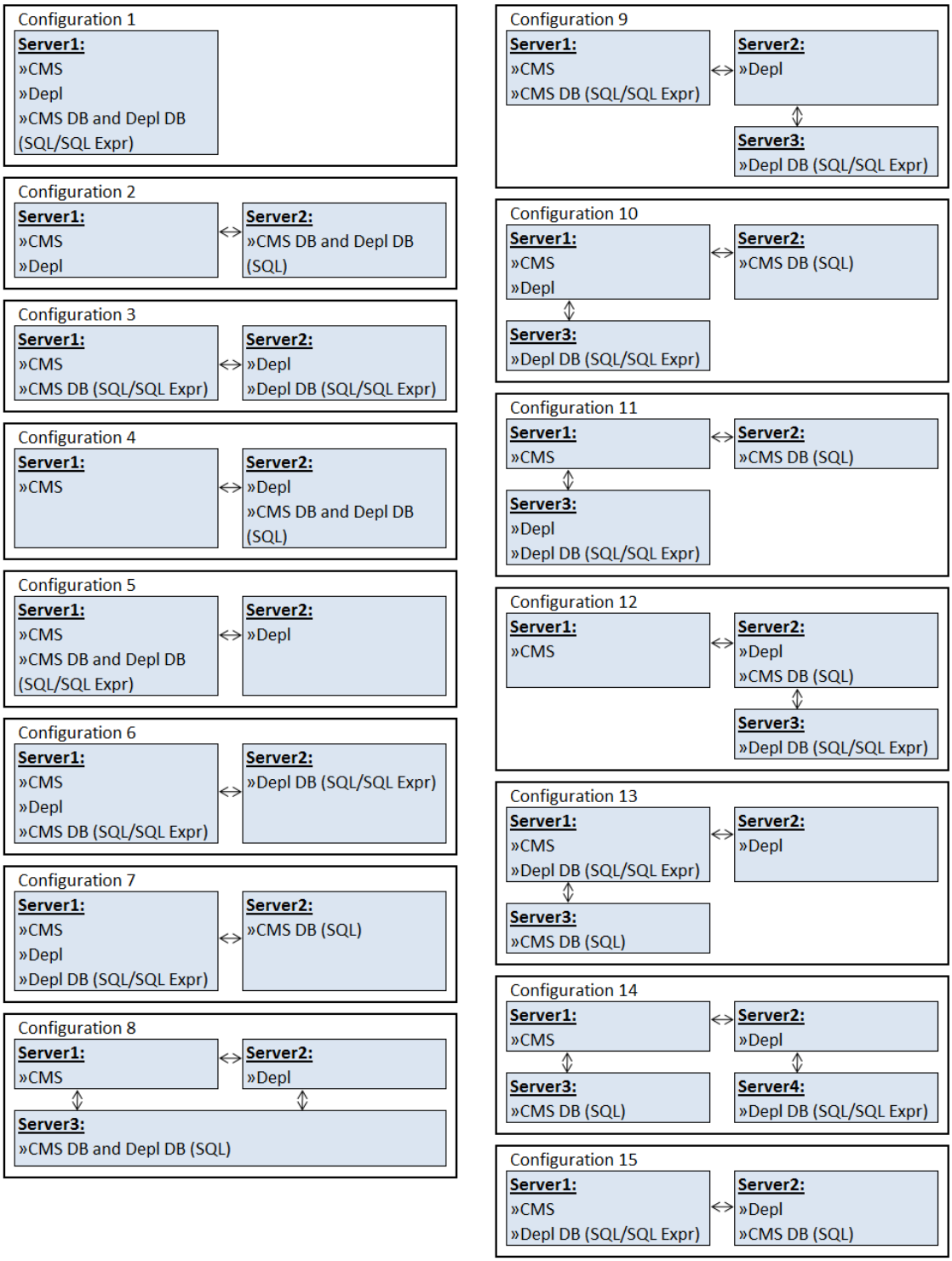
The databases can be local to the CMS or can be located on a remote system. The CMS and the SQL Server database servers do not need to be in the same domain and do not need to be in a trusted domain.

If you install Insight Control server deployment software, a CMS configuration contains a deployment server that stores copies of OS images to deploy to managed systems. The managed systems connect and communicate with the deployment server to register inventory and configuration information and to run deployment and management tasks. The deployment server can be local to the CMS or can be located on a remote server.

NOTE: This release of Insight Management also supports the configuration of the CMS as a two-node failover cluster. For more information about a CMS configuration in a high-availability environment, see "Central Management Server requirements in a high-availability environment" (page 19).

Figure 1 (page 18) illustrates the supported combinations of the CMS, the local and remote database servers, and the local or remote deployment server.

Figure 1 Supported CMS configurations



3 Central Management Server requirements in a high-availability environment

This release of Insight Management supports the configuration of the CMS as a single-site, two-node physical server Microsoft Windows Server 2008 R2 failover cluster to create a highly-available environment. Using failover clustering with Insight Management is a simple way to achieve redundancy, availability, load balancing, and failover capability.

Clustering is an included feature of the Microsoft Windows Server 2008 R2 Enterprise operating systems, and cluster support is an included feature of the Microsoft SQL Server 2008 Enterprise products.

Installing or upgrading a CMS cluster follows a different procedure from that of a single-server CMS installation or upgrade. For more information, see the *Installing and upgrading HP Insight Management 7.1 on Windows Server 2008 R2 Failover Clusters* white paper in the Insight Management Information Library:

http://www.hp.com/go/insightmanagement/docs

Supported cluster environments

This release of Insight Management supports the following Microsoft Windows Server 2008 (WS08) platforms for high-availability:

- **Operating system:**
  - Microsoft Windows Server 2008 R2 Enterprise Edition
  - Microsoft Windows Server 2008 R2 Enterprise Edition SP1
- **Databases:**
  - Microsoft SQL Server 2008 Enterprise SP2 or SP3
  - Microsoft SQL Server 2008 R2 Enterprise
  - Microsoft SQL Server 2008 R2 Enterprise SP1

Insight Management components supported in a highly available environment

Table 17 Insight Management components that the cluster platform supports

Insight Management component	Supported?
HP Systems Insight Manager	✓
HP Version Control Repository Manager	✓
HP System Management Homepage	✓
HP Insight Management Advisor	✓
Windows Management Instrumentation (WMI) Mapper	✓
HP Insight Control licensing and reports	✓
HP Insight Control performance management	✓
HP Insight Control power management	✓
HP Insight Control server deployment	

Table 17 Insight Management components that the cluster platform supports *(continued)*

Insight Management component	Supported?
HP Insight Control server deployment SIM integration module	
HP Insight Control server deployment Quiesce SIM Plugin	
HP Insight Control server migration	✓
HP Insight Control virtual machine management	✓
HP Insight managed system setup wizard	✓
HP Insight `mxsync` utility	✓
HP Matrix Operating Environment capacity planning, configuration, and workload management and Capacity Advisor Consolidation software	✓
HP Matrix infrastructure orchestration	✓
HP Matrix recovery management	✓
HP Insight Remote Support Advanced	
HP Storage Provisioning Manager	✓
HP SPM Adapter for EMC Symmetrix VMAX	✓
HP Virtual Connect Enterprise Manager	✓

Cluster configuration requirements

- Two-node clusters, consisting of two HP ProLiant servers (that is, physical servers, not virtual machines) and attached shared storage, are supported. Each server must satisfy the hardware and recommended requirements for Insight Management and the Microsoft Windows Server 2008 R2 Enterprise OS, including processor, memory, networking, and disk space.

  To validate servers and storage that are certified for Microsoft Windows Server 2008 R2, see "Central Management Server requirements" (page 7) and the following Microsoft website:

  http://www.windowsservercatalog.com/
- HP recommends SAN shared storage, although you can use any shared storage that Microsoft clustering supports.
- HP recommends SAN boot for the two cluster nodes.
- Each server requires two dedicated network adapters, at minimum, one for a public (client-facing) network and another for a private cluster network. Each server requires a third dedicated adapter if you use an iSCSI SAN.
- The SQL server must run either: in the same cluster with Insight Management; or, in a remote Windows cluster that is a member of the same Windows domain as the Insight Management cluster.
- An Active Directory domain infrastructure and DNS services suitable for hosting the cluster are required, but they cannot run on either of the two cluster nodes.
- The fully configured cluster must pass the Validate test in the Windows Failover Cluster Manager.

Unsupported items in a CMS cluster configuration

- Brocade Network Advisor, Command View, HP Operations Orchestration, VMware vCenter Server, and similar applications are not permitted in a CMS cluster
- Multi-site Windows cluster: a CMS cluster is a single site cluster.

4 Hardware requirements for managed systems

This chapter provides the hardware, firmware, and software requirements for servers that Insight Management can license and manage, as well as information on public cloud providers.

Public cloud providers

In addition to provisioning with on-premise resources, Matrix OE infrastructure orchestration supports provisioning virtual servers to the following public cloud providers: HP Cloud Services, Savvis, and Amazon Web Services.

Supported HP BladeSystem enclosures

Table 18 Supported HP BladeSystem enclosures

Enclosure model	Systems Insight Manager	Insight Control	Matrix OE	VCEM
HP BladeSystem c3000 Enclosure[1]	✓	✓	✓	✓
HP BladeSystem c3000 Tower Enclosure[1]	✓	✓	✓	✓
HP BladeSystem c7000 Enclosure[1]	✓	✓	✓	✓

[1] HP recommends Onboard Administrator (OA) firmware version 3.60, but version 3.55 is supported.

Supported servers

This section lists the HP and third-party servers that Insight Management can manage.

Older servers that are not listed in this support matrix might still work with Insight Management. However, HP has stopped testing Insight Management on older servers and does not claim them to be officially supported.

HP ProLiant servers

NOTE:

- For the latest HP ProLiant server Windows Hyper-V support matrix, see the following website: http://h18004.www1.hp.com/products/servers/windows/index.html
- For the latest HP ProLiant server VMware support matrix, see the following web site: http://h18004.www1.hp.com/products/servers/vmware/supportmatrix/hpvmware.html

Table 19 HP ProLiant BL BladeSystem servers

Server model	SIM	Insight Control					Matrix OE	VCEM
		depl	migr	perf[1]	pwr[2, 3]	virt		
ProLiant BL10e	✓							
ProLiant BL2x220c G5[4]	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL2x220c G6[4]	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL2x220c G7[4]	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL260c G5	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL280c G6	✓	✓	✓	✓	✓	✓	✓	✓

Table 19 HP ProLiant BL BladeSystem servers *(continued)*

Server model	SIM	Insight Control					Matrix OE	VCEM
		depl	migr	perf[1]	pwr[2, 3]	virt		
ProLiant BL420c Gen8	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL460c	✓	✓		✓	✓	✓	✓	✓
ProLiant BL460c G5	✓	✓	✓		✓	✓	✓	✓
ProLiant BL460c G6, G7	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL460c Gen8	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL465c	✓	✓			✓	✓	✓	✓
ProLiant BL465c G5, G6	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL465c G7 (AMD Opteron 6100)[5]	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL465c G7 (AMD Opteron 6200)[6]	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL465c Gen8	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL480c	✓	✓		✓	✓	✓	✓	✓
ProLiant BL490c G6, G7	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL495c G5, G6	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL620c G7	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL660c Gen8	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL680c G5	✓	✓	✓		✓	✓	✓	✓
ProLiant BL680c G7	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL685c	✓	✓			✓	✓	✓	✓
ProLiant BL685c G5, G6[5]	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL685c G7 (AMD Opteron 6100)[5]	✓	✓	✓	✓	✓	✓	✓	✓
ProLiant BL685c G7 (AMD Opteron 6200)[6]	✓	✓	✓	✓	✓	✓	✓	✓

[1] Insight Control performance management (IC perf) does not support IDE and SAS HBA storage controllers for any of these servers.

[2] For information on supported power capabilities, see Table 52 (page 59)

[3] To use Insight Control power management, you must apply an iLO license to the server.

[4] This workstation blade contains two complete physical servers, and therefore requires two software licenses for each blade.

[5] Red Hat Enterprise Linux 5.5 is the minimum version supported on this server.

[6] Red Hat Enterprise Linux 5.7 is the minimum version supported on this server.

Table 20 HP ProLiant workstation blades

Workstation model	SIM	Insight Control					Matrix OE	VCEM
		depl	migr	perf	pwr[1, 2]	virt		
ProLiant xw460c	✓			✓	✓			✓
ProLiant xw2x220c[3]	✓			✓	✓			✓

Table 20 HP ProLiant workstation blades *(continued)*

Workstation model	SIM	Insight Control					Matrix OE	VCEM
		depl	migr	perf	pwr[1, 2]	virt		
ProLiant WS460c G6	✓			✓	✓	✓		✓
ProLiant WS460c Gen8 WS Blade	✓	✓		✓	✓	✓		✓

[1] For information on supported power capabilities, see Table 54 (page 62)

[2] To use Insight Control power management, you must apply an iLO license to the server.

[3] This workstation blade contains two complete physical servers, and therefore requires two software licenses for each blade.

Table 21 HP ProLiant DL rack mount servers

Server model	SIM	Insight Control					Matrix OE	VCEM[3]
		depl	migr	perf	pwr[1, 2]	virt		
ProLiant DL120 G5	✓	✓				✓		N/A
ProLiant DL120 G6	✓	✓				✓		N/A
ProLiant DL120 G7	✓	✓	✓	✓		✓		N/A
ProLiant DL140 G2	✓					✓		N/A
ProLiant DL140 G3	✓	✓				✓		N/A
ProLiant DL145 G2	✓					✓		N/A
ProLiant DL145 G3	✓	✓				✓		N/A
ProLiant DL160 G5	✓	✓				✓		N/A
ProLiant DL160 G5p	✓	✓				✓		N/A
ProLiant DL160 G6	✓	✓				✓		N/A
ProLiant DL160 Gen8	✓	✓	✓	✓[4]		✓		N/A
ProLiant DL165 G5	✓	✓				✓		N/A
ProLiant DL165 G5p	✓	✓				✓		N/A
ProLiant DL165 G6	✓	✓				✓		N/A
ProLiant DL165 G7 (AMD Opteron 6100)[5]	✓	✓				✓		N/A
ProLiant DL165 G7 (AMD Opteron 6200)[6]	✓	✓				✓		N/A
ProLiant DL170e G6	✓	✓				✓		N/A
ProLiant DL170h G6	✓	✓				✓		N/A
ProLiant DL180 G5	✓	✓				✓		N/A
ProLiant DL180 G6	✓	✓				✓		N/A
ProLiant DL185 G5	✓	✓				✓		N/A
ProLiant DL320 G3	✓			✓		✓	✓	N/A
ProLiant DL320 G4	✓			✓		✓	✓	N/A
ProLiant DL320 G5	✓	✓	✓	✓		✓	✓	N/A
ProLiant DL320 G5p	✓	✓	✓	✓		✓	✓	N/A

Table 21 HP ProLiant DL rack mount servers *(continued)*

Server model	SIM	Insight Control					Matrix OE	VCEM[3]
		depl	migr	perf	pwr[1, 2]	virt		
ProLiant DL320 G6	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL320e Gen8	✓	✓	✓	✓		✓	✓	N/A
ProLiant DL320s	✓	✓		✓		✓	✓	N/A
ProLiant DL360 G2	✓			✓		✓	✓	N/A
ProLiant DL360 G3	✓			✓		✓	✓	N/A
ProLiant DL360 G4	✓			✓		✓	✓	N/A
ProLiant DL360 G4p	✓			✓		✓	✓	N/A
ProLiant DL360 G5	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL360 G6	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL360 G7	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL360e Gen8	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL360p Gen8	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL365	✓	✓			✓	✓	✓	N/A
ProLiant DL365 G5	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL370 G6	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL380 G3	✓			✓		✓	✓	N/A
ProLiant DL380 G4	✓			✓		✓	✓	N/A
ProLiant DL380 G5	✓	✓[7]	✓	✓	✓	✓	✓	N/A
ProLiant DL380 G6	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL380 G7	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL380p Gen 8	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL380e Gen8	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL385	✓					✓	✓	N/A
ProLiant DL385 G2	✓	✓			✓	✓	✓	N/A
ProLiant DL385 G5	✓	✓[7]	✓	✓	✓	✓	✓	N/A
ProLiant DL385 G5p	✓	✓	✓		✓	✓	✓	N/A
ProLiant DL385 G6	✓	✓	✓	✓		✓	✓	N/A
ProLiant DL385 G7 (AMD Opteron 6100)[5]	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL385 G7 (AMD Opteron 6200)[6]	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL385p Gen8	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL560 Gen8	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL580 first generation	✓			✓		✓	✓	N/A
ProLiant DL580 G2	✓			✓		✓	✓	N/A
ProLiant DL580 G3	✓			✓		✓	✓	N/A

Table 21 HP ProLiant DL rack mount servers *(continued)*

Server model	SIM	Insight Control					Matrix OE	VCEM[3]
		depl	migr	perf	pwr[1, 2]	virt		
ProLiant DL580 G4	✓	✓		✓		✓	✓	N/A
ProLiant DL580 G5	✓	✓[7]	✓	✓		✓	✓	N/A
ProLiant DL580 G7	✓	✓[7]	✓	✓	✓	✓	✓	N/A
ProLiant DL585 first generation	✓	✓				✓	✓	N/A
ProLiant DL585 G2	✓	✓				✓	✓	N/A
ProLiant DL585 G5	✓	✓	✓	✓		✓	✓	N/A
ProLiant DL585 G6	✓	✓	✓	✓		✓	✓	N/A
ProLiant DL585 G7 (AMD Opteron 6100)[5]	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL585 G7 (AMD Opteron 6200)[6]	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant DL740	✓			✓		✓	✓	N/A
ProLiant DL740 G2	✓					✓	✓	N/A
ProLiant DL760 first generation	✓			✓		✓	✓	N/A
ProLiant DL760 G2	✓			✓		✓	✓	N/A
ProLiant DL785	✓			✓		✓	✓	N/A
ProLiant DL785 G5	✓	✓	✓			✓	✓	N/A
ProLiant DL785 G6	✓	✓	✓			✓	✓	N/A
ProLiant DL980 G7	✓	✓	✓	✓	✓	✓	✓	N/A

[1] For information on supported power capabilities, see Table 54 (page 62)

[2] To use Insight Control power management, you must apply an iLO license to the server.

[3] VCEM support does not apply to these servers.

[4] Insight Control performance management does not support IDE controllers on this server.

[5] Red Hat Enterprise Linux 5.7 is the minimum version supported on this server.

[6] This server supports only the Windows Server 2008 SP2 (x86 and x64) and Windows Server 2008 R2 SP1 operating systems, Red Hat Enterprise Linux RHEL 5.7 (and later) operating systems, and the VMware ESX 4.1 (U1 and U2), ESXi 4.1 (U1 and U2), and ESXi 5.x hypervisors.

[7] For SAN, only boot from SAN storage is supported. Brocade FC HBA is supported only for Microsoft Windows.

Table 22 HP ProLiant ML tower servers

Server model	SIM	Insight Control					Matrix OE	VCEM[3]
		depl	migr	perf	pwr[1, 2]	virt		
ProLiant ML110 G7	✓	✓	✓	✓	✓[4]	✓	✓	N/A
ProLiant ML310 G2	✓			✓		✓	✓	N/A
ProLiant ML310 G3	✓					✓	✓	N/A
ProLiant ML310 G4	✓	✓		✓		✓	✓	N/A
ProLiant ML310 G5	✓	✓	✓			✓	✓	N/A
ProLiant ML310 G5p	✓	✓	✓			✓	✓	N/A
ProLiant ML310e Gen8	✓	✓	✓	✓	✓	✓	✓	N/A

Table 22 HP ProLiant ML tower servers *(continued)*

Server model	SIM	Insight Control					Matrix OE	VCEM[3]
		depl	migr	perf	pwr[1, 2]	virt		
ProLiant ML330 G3	✓			✓		✓	✓	N/A
ProLiant ML330 G6	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant ML350 G2, G3	✓			✓		✓	✓	N/A
ProLiant ML350 G3	✓			✓		✓	✓	N/A
ProLiant ML350 G4	✓					✓	✓	N/A
ProLiant ML350 G4p	✓			✓		✓	✓	N/A
ProLiant ML350 G5, G6	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant ML350e Gen8	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant ML350p Gen8	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant ML370 G2	✓			✓		✓	✓	N/A
ProLiant ML370 G3	✓			✓		✓	✓	N/A
ProLiant ML370 G4	✓			✓		✓	✓	N/A
ProLiant ML370 G5	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant ML370 G6	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant ML530	✓			✓		✓	✓	N/A
ProLiant ML570 G3	✓			✓		✓	✓	N/A
ProLiant ML570 G4	✓	✓				✓	✓	N/A

[1] For information on supported power capabilities, see Table 55 (page 64)

[2] To use Insight Control power management, you must apply an iLO license to the server.

[3] VCEM support does not apply to these servers.

[4] The Data Center Power Control (DCPC) capability of power management is not supported for this server.

Table 23 HP ProLiant SL scalable system servers

Server model	SIM	Insight Control					Matrix OE	VCEM[3]
		depl	migr	perf	pwr[1, 2]	virt		
ProLiant SL160s G6	✓	✓				✓		N/A
ProLiant SL160z G6	✓	✓				✓		N/A
ProLiant SL165s G7	✓	✓				✓		N/A
ProLiant SL165z G6	✓	✓				✓		N/A
ProLiant SL165z G7[4]	✓	✓				✓		N/A
ProLiant SL170s G6	✓	✓				✓		N/A
ProLiant SL170z G6	✓	✓				✓		N/A
ProLiant SL230s Gen8	✓	✓	✓	✓[5]	✓	✓	✓	N/A
ProLiant SL250s Gen8	✓	✓	✓	✓[5]	✓	✓	✓	N/A
ProLiant SL270 Gen8	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant SL335s G7[4]	✓	✓	✓	✓		✓		N/A

Table 23 HP ProLiant SL scalable system servers *(continued)*

Server model	SIM	Insight Control					Matrix OE	VCEM[3]
		depl	migr	perf	pwr[1, 2]	virt		
ProLiant SL390s G7	✓	✓	✓	✓		✓	✓	N/A
ProLiant SL4540 Gen8	✓	✓	✓	✓	✓	✓	✓	N/A
ProLiant SL4545 G7	✓	✓[6]	✓[7]	✓	✓	✓	✓	N/A

[1] For information on supported power capabilities, see Table 56 (page 65)

[2] To use Insight Control power management, you must apply an iLO license to the server.

[3] VCEM support does not apply to these servers.

[4] Red Hat Enterprise Linux 5.5 x86 is not supported on AMD-based ProLiant G7 servers.

[5] Insight Control performance management does not support IDE or SAS HBA controllers on this server.

[6] Insight Control server deployment does not support SLES11 SP1 on this server.

[7] Migration does not succeed for supported Linux operating systems to HP ProLiant SL4545 G7 servers when the server is configured with the HP Smart Array P420i Storage Controller. For more information, see the *HP Insight Management 7.1 Update 1 Release Notes*

HP Integrity servers

Table 24 HP Integrity servers

Server model	SIM	Insight Control					Matrix OE[3, 4]	VCEM[5]
		depl	migr	perf	pwr[1, 2]	virt		
Integrity rx2660	✓	✓			✓	N/A	✓	N/A
Integrity rx2800	✓				✓	N/A	✓[6]	N/A
Integrity rx3600	✓	✓			✓	N/A	✓	N/A
Integrity rx6600	✓	✓			✓	N/A	✓	N/A
Integrity rx7620	✓					N/A	✓	N/A
Integrity rx7640	✓	✓				N/A	✓	N/A
Integrity rx8620	✓					N/A	✓	N/A
Integrity rx2800 i2	✓	✓			✓	N/A	✓	N/A
Integrity rx2800 i4	✓				✓	N/A	✓	N/A
Integrity rx8640	✓	✓				N/A	✓	N/A
Integrity Superdome	✓	✓				N/A	✓	N/A
Integrity Superdome 2	✓				✓	N/A	✓	N/A

[1] For information on supported power capabilities, see Table 57 (page 66)

[2] To use Insight Control power management, you must apply an iLO license to the server.

[3] Matrix recovery management does not support Integrity servers.

[4] For physical systems, all HP Integrity BladeSystem servers with Virtual Connect, all supported Ethernet adapters, and all supported Fibre Channel and FCoE host bus adapters can be used with Integrity/HP-UX cross-technology logical server operations. For VM hosts, only HP Integrity BladeSystem servers and rack-mounted HP Integrity servers (including Superdome 2), all supported Ethernet adapters, and QLogic 4 Gb and 8 Gb Fibre Channel host bus adapters are supported.

[5] VCEM support does not apply to these servers.

[6] Matrix infrastructure orchestration is not supported on this server.

Table 25 HP Integrity NonStop servers

Server model	SIM	Insight Control					Matrix OE	VCEM[2]
		depl	migr	perf	pwr[1]	virt		
Integrity NonStop NB50000c	✓				✓			N/A
Integrity NonStop NB50000c-cg	✓				✓			N/A
Integrity NonStop NB54000c	✓				✓			N/A
Integrity NonStop NB54000c-cg	✓				✓			N/A
Integrity NonStop NS16x00	✓				✓			N/A
Integrity NonStop NS16000cg	✓				✓			N/A
Integrity NonStop NS14x00	✓				✓			N/A
Integrity NonStop NS5000cg	✓				✓			N/A
Integrity NonStop NS5000T	✓				✓			N/A
Integrity NonStop NS3000AC	✓				✓			N/A
Integrity NonStop NS2000	✓				✓			N/A
Integrity NonStop NS2000T	✓				✓			N/A
Integrity NonStop NS2000ST	✓				✓			N/A
Integrity NonStop NS1x00	✓				✓			N/A
Integrity NonStop S-Series servers	✓							N/A

[1] For information on supported power capabilities, see Table 58 (page 67)

[2] VCEM support does not apply to these servers.

Table 26 HP Integrity BladeSystem servers

Server model	SIM	Insight Control					Matrix OE[2, 3]	VCEM
		depl	migr	perf	pwr[1]	virt		
Integrity BL860c	✓	✓[4]			✓	✓	✓	✓
Integrity BL860c i2	✓	✓[5]			✓[6]	✓	✓	✓
Integrity BL860c i4	✓				✓[6]	✓	✓	✓
Integrity BL870c	✓	✓[4]			✓	✓	✓	✓
Integrity BL870c i2	✓	✓[5]			✓[6]	✓	✓	✓
Integrity BL870c i4	✓				✓[6]	✓	✓	✓
Integrity BL890c i2	✓	✓[5]			✓[6]	✓	✓	✓
Integrity BL890c i4	✓				✓[6]	✓	✓	✓

[1] To use Insight Control power management, you must apply an iLO license to the server.

[2] Matrix recovery management does not support Integrity servers.

[3] For physical systems, all HP Integrity BladeSystem servers with Virtual Connect, all supported Ethernet adapters, and all supported Fibre Channel and FCoE host bus adapters can be used with Integrity/HP-UX cross-technology logical server operations. For VM hosts, only HP Integrity BladeSystem servers and rack-mounted HP Integrity servers (including Superdome 2), all supported Ethernet adapters, and QLogic 4 Gb and 8 Gb Fibre Channel host bus adapters are supported.

[4] For DAS, only RAMOE 1 configuration is supported.

[5] For BladeSystem Integrity i2 servers, only Windows Server 2008 R2 deployments are supported. The servers require minimum system firmware version 01.80 and management firmware version 01.41.01.

[6] The DCPC Power ON/OFF actions are not supported for this server.

Other HP servers

Table 27 Other HP servers

Server model	SIM	Insight Control					Matrix OE[1]	VCEM[2]
		depl	migr	perf	pwr	virt		
HP 9000	✓						✓	N/A

[1] Matrix infrastructure orchestration and Matrix recovery management do not support HP 9000 servers.

[2] VCEM support does not apply to these servers.

Third-party servers

HP Matrix Operating Environment virtual logical servers are supported on third-party servers running a supported hypervisor when an HP Matrix Operating Environment for non-HP servers license is applied. Third-party severs are licensed for Matrix Operating Environment and Insight Control virtual machine management through the HP Matrix Operating Environment for non-HP Servers license. For licensing information, see

http://h18004.www1.hp.com/products/quickspecs/13050_div/13050_div.pdf.

In general, any server listed in the VMware or Microsoft Hyper-V hypervisor compatibility guides is supported as follows. However, if HP Systems Insight Manager cannot obtain the server's serial number, HP SIM cannot support the server. Note that VM guests cannot be moved from one third-party vendor's server to another.

HP tested select models from the following server families. They represent a sample of the third party servers that can be supported.

- Dell PowerEdge
- IBM System x servers
- Cisco UCS

For information on Microsoft Hyper-V compatibility, search for `Hyper-V` from the http://www.windowsservercatalog.com website.

For information on VMware compatibility, use the search function at http://www.vmware.com/resources/compatibility/search.php.

NOTE:

HP Insight Control deployment, migration, performance, and power management are not supported on these servers because you cannot apply an HP Insight Control license to a third-party server. VMs using raw devices, HP Matrix Operating Environment recovery management, and physical server provisioning are also not supported on third-party servers. To understand the functionality that HP SIM supports, see the white paper titled *How to manage non-HP x86 Windows servers with HP SIM* at the following website

http://www.hp.com/go/insightmanagement/sim/docs.

Supported hardware storage products

Table 28 Supported storage hardware

Storage device/series	SIM	Insight Control		Matrix OE		
		depl	migr	Provi-sioning[1]	Recovery Mgmt[2]	SPM
3PAR Storage Systems						
F-Class Fibre Channel (InForm OS 3.1.1 MU1 and MU2)	✓	✓	✓	✓	✓	✓[3]
T-Class Fibre Channel (InForm OS 3.1.1 MU1 and MU2)	✓	✓	✓	✓	✓	✓[3]
P10000 Fibre Channel (InForm OS 3.1.1 MU1 and MU2)	✓	✓	✓	✓	✓	✓[3]
P10000 iSCSI (10GB) (InForm OS 3.1.1 MU1 and MU2)[4]	✓	✓	✓	✓	✓	
P6000 EVA						
EVA 4x00	✓	✓	✓	✓[5]	✓	✓
EVA 6x00	✓		✓	✓[5]	✓	✓
EVA 8x00	✓		✓	✓[5]	✓	✓
P6300 Fibre Channel	✓	✓	✓	✓[5]	✓	✓
P6500 Fibre Channel	✓	✓	✓	✓[5]	✓	✓
P6350 Fibre Channel (requires HP P6000 Command View Software version 10.1)	✓			✓[5]	✓	✓
P6550 Fibre Channel (requires HP P6000 Command View Software version 10.1)	✓			✓[5]	✓	✓
P9000 XP						
XP 128	✓	✓	✓			[6]
XP 1024	✓	✓	✓			[6]
XP10000	✓	✓		✓	✓	[6]
XP12000	✓	✓		✓	✓	✓[7]
XP20000	✓	✓		✓	✓	✓[7]
XP24000	✓	✓		✓	✓	✓[7]
P9500 (P9500 firmware versions V03 or later)	✓	✓	✓	✓	✓	✓[7]
P2000 G3 MSA						
P2000 G3 Fibre Channel (with T230, T240 firmware)	✓	✓	✓	✓[5]		[6]
P2000 G3 SAS (with T230, T240 firmware)	✓	✓	✓	[8]		
P2000 G3 Fibre Channel/iSCSI (with T230, T240 firmware)	✓	✓	✓	✓[5, 8]		[6]
P2000 G3 iSCSI, 10GB (with T230, T240 firmware)	✓	✓	✓	[8]		
P2000 G3 iSCSI, 1GB (with T230, T240 firmware)	✓	✓	✓	[8]		
X9000 IBRIX						
X9300	✓	✓				
X9320	✓	✓				
X9720	✓					

Table 28 Supported storage hardware *(continued)*

Storage device/series	SIM	Insight Control		Matrix OE		
		depl	migr	Provi-sioning[1]	Recovery Mgmt[2]	SPM
X9730	✓	✓				
LeftHand Storage						
P4300 G2 (SAN/iQ 8.5 and later)	✓	✓	✓	[8]		
P4500 G2 (SAN/iQ 8.5 and later)	✓	✓	✓	[8]		
P4800 G2 (4460sb) (SAN/iQ 8.5 and later)	✓	✓	✓	[8]		
P4900 (SAN/iQ 9.5.0.1)	✓	✓	✓	[8]		
NAS Network Storage Systems						
X1400 G2	✓					
X1500 G2	✓					
X1600 G2	✓					
X1800 G2	✓					
X1800sb G2	✓					
X3400 G2	✓					
X3800 G2	✓					
X3800sb G2	✓					
P4000 G2 Unified NAS Gateway	✓					
X5520	✓					
E5000 Messaging Systems for Microsoft Exchange						
E5000 G2	✓					
E5000	✓					
Tape Storage						
EML (CV Tape Library 2.8 and 3.0)	✓					
ESL-e (CV Tape Library 2.8 and 3.0)	✓					
ESL G3 (CV Tape Library 2.8 and 3.0)	✓					
MSL G3 (CV Tape Library 2.8 and 3.0)	✓					

[1] For physical server storage provisioning, Matrix Operating Environment supports any Fibre Channel storage device that fulfills the requirements in "Matrix OE storage support" (page 33). For details on VM storage support, see Table 29 (page 33).

[2] See "Storage support for Matrix recovery management" (page 34).

[3] SPM supports 3PAR Fibre Channel but does not support some 3PAR features such as autonomic groups, virtual domains, and peer motion.

[4] Supported as VM backing store only.

[5] Supports the Matrix Operating Environment storage pool entry validation feature.

[6] Supported as an unmanaged array by SPM, or a custom adapter can be developed. For more information, see *HP Storage Provisioning Manager (SPM) User Guide* at http://www.hp.com/go/matrixoe/docs.

[7] Storage Provisioning Manager supports XP storage solutions for automated catalog import and presentation, but does not support on-demand provisioning.

[8] SAS and iSCSI supported as VM backing store only.

Fibre channel storage and switch recommendations

HP recommends the HP storage solution portfolio of products, which includes:

- 3PAR Storage Systems
- P6000 EVA
- P9000 XP

You must provide connectivity to a compatible Fibre Channel SAN array. Customer-supplied Fibre Channel switches to an external SAN must support boot from SAN and NPIV functionality.

To obtain a list of switches and storage devices that are supported by Virtual Connect Fibre Channel:

1. Open a browser to the following website:
   http://www.hp.com/storage/spock
2. If you are a new user and do not have an HP Passport account, register for an account. If you have an account, sign in.
3. Navigate to **Other Hardware→Virtual Connect→HP VC 8Gb 24-Port Module**.

iSCSI SAN

As noted in Table 29 (page 33), iSCSI is supported only as a virtual backing store (not a physical server booting from iSCSI or a virtual machine directly accessing raw iSCSI LUNs).

To use iSCSI, you must provide connectivity to a compatible iSCSI SAN. As with Fibre Channel storage, the storage vendor generally certifies end-to-end support for an iSCSI storage device.

VMware and Microsoft independently certify third-party devices with their respective operating systems, hypervisors, and iSCSI initiators. Confirmation of device support by the hypervisor vendor is a prerequisite to support in Insight Management.

NOTE: For security, reliability, and performance, HP recommends separate, dedicated iSCSI networks for iSCSI LAN traffic.

iSCSI targets as backing storage for VM guests

HP recommends the following iSCSI targets as backing storage for virtual machine guests:

iSCSI targets	See
HP 3PAR iSCSI Storage Systems	http://www.hp.com/go/3par
HP P4000 SAN Solutions: • HP P4300 G2 • HP P4500 G2 • HP P4800 G2	http://www.hp.com/go/p4000
HP iSCSI Enterprise Virtual Array Systems: • HP P6300 • HP P6500	http://www.hp.com/go/p6000
Other iSCSI targets certified and supported by the storage vendor and Microsoft Hyper-V and VMware ESX	See storage vendor's documentation.

iSCSI device references

For more information on support for HP iSCSI devices, see the following website:

http://www.hp.com/storage/spock

For more information on Windows and VMware support for iSCSI devices, see the following websites:

- Windows: http://www.windowsservercatalog.com/
- VMware: http://www.vmware.com/resources/compatibility/search.php

iSCSI LAN/VLAN switches

HP recommends the following dedicated iSCSI LAN/VLANs for iSCSI implementations:

- HP ProCurve 6600 series (models with 10 GB option)
- HP ProCurve 8200zl series
- HP ProCurve 5400zl series

Storage options for virtual machine guests

VMware and Microsoft independently certify third-party devices with their respective operating systems, hypervisors, and iSCSI initiators. Confirmation of device support by the hypervisor vendor is a prerequisite to support in Insight Management.

Table 29 Storage options for VM guests

Storage type	VMware VM			Microsoft Hyper-V VM	Integrity VM[1]	
	VMFS[2]	RDM	NFS	NTFS[2]	SLVM with Serviceguard	SAN-based (or NPIV-based) Storage
Fibre Channel	✓	✓[3]		✓	✓	✓[4, 5]
iSCSI	✓[6, 7, 8]	✓[9]	✓[7]			
DAS	✓[10]			✓[10]		
SAS	✓[10]			✓[10]		
NAS			✓[10]			

[1] Integrity VM virtual machine guests must have an HP-UX operating system type. Windows and Linux guests are not supported. For more information about requirements and restrictions for Integrity VM hosts running on HP-UX, see Table 49 (page 50) .

[2] All virtual disks of a given VM must reside on the same datastore as the VM itself.

[3] Not supported by Matrix infrastructure orchestration.

[4] Matrix infrastructure orchestration for Integrity VM does not support SAN-based or NPIV-based storage.

[5] Only Qlogic 4 Gb and 8 Gb Fibre Channel host bus adapters are supported with SAN-based or NPIV-based storage.

[6] Matrix recovery management supports only 3PAR iSCSI storage systems (Table 28 (page 30)) as VM backing store. For other iSCSI storage systems that Matrix Operating Environment supports, Matrix recovery management 7.1 provides a user-defined storage adapter interface specification for integration. For more information, see *HP Matrix Operating Environment Recovery Management User Guide* and also "iSCSI SAN" (page 32)

[7] To use iSCSI, you must provide connectivity to a compatible iSCSI SAN. As with Fibre Channel storage, the storage vendor generally certifies end-to-end support for an iSCSI storage device.

[8] Supported by VMware ESX 4.0 Update 2 and later.

[9] Not supported by Matrix OE, including Matrix infrastructure orchestration and Matrix recovery management software.

[10] Not supported by Matrix recovery management.

Matrix OE storage support

Matrix OE supports the use of virtual and physical logical servers. "Storage options for virtual machine guests" (page 33) lists the virtual server storage options. Physical logical servers use storage provisioned from the SAN for flexible movement.

HP recommends Fibre Channel Storage Area Network (SAN) with boot-from-SAN capability (for physical blade deployments). Matrix OE supports any Fibre Channel storage solution, which supports the Virtual Connect environment (including the ability to present storage to an initiator WWN which is not yet visible on the fabric), N_Port MOE Virtualization (NPIV), and boot-from-SAN capability. Matrix OE supports SAN-based storage for Integrity VM logical servers. For more information, see the *HP Matrix Operating Environment Logical Server Management User Guide*.

To realize the benefits of Virtual Connect logical servers, including the ability to move logical servers and to easily repurpose server blades associated with inactive logical servers, you must remove or disable any local disks.

Storage support for Matrix OE Provisioning

The storage validation feature of Matrix OE logical server management is supported on the following HP disk arrays:

- P2000fc
  - Using explicit or default mapping
  - MSA SMI-S provider version 1.1.2 or later
- EVA 4*x*00/6*x*00/8*x*00 and HP P6300/P6350/P6500/P6550

NOTE: Support for a password-protected HP P6000 EVA Storage System array requires the HP P6000 Command View Software to be configured to enable password access to the array (with the same password as is set on the array).

Matrix OE logical server capabilities, including storage validation and integration with the HP Storage Provisioning Manager (SPM) 2.1.5, support HP P6000 Command View Software versions 9.4, 10.0, and 10.1 (includes the array SMI-S provider).

HP Matrix Operating Environment supports pre-provisioned Fibre Channel storage and on-demand provisioned storage though integration with the HP Storage Provisioning Manager 2.1.5. SPM supports the 3PAR, EVA, and XP Storage Systems. On-demand provisioning (including automated zoning of Brocade SAN environments) is supported for the EVA and 3PAR Storage Systems. For more information, see the *HP Storage Provisioning Manager (SPM) User Guide*, which is available from the Matrix Operating Environment Information Library:

http://www.hp.com/go/matrixoe/docs

Storage support for Matrix recovery management

Use of Matrix recovery management requires any of the following plus replication software:

- HP 3PAR Storage System
- HP P6000 EVA Storage System
- HP P9000 XP Storage System

Matrix recovery management replicates data between the primary and recovery sites using 3PAR Remote Copy replication software, HP P6000 Continuous Access Software, or HP 9000 Continuous Access Software. Each site requires its own instance of HP P6000 Command View Software to manage the HP P6000 EVA arrays or HP P9000 XP Storage Systems storage management station to manage HP P9000 arrays associated with that site.

Matrix recovery management supports 3PAR Storage Systems with Remote Copy synchronous and asynchronous replication as follows:

- CLX/3PAR (v2.0 or later) and 3PAR InForm CLI (3.1.1 MU1, MU2, and later) must be installed on CMS.
- Matrix recovery management supports any 3PAR Storage System supported by CLX/3PAR

Matrix recovery management supports HP P9000 XP Storage System arrays with Continuous Access Synchronous and Asynchronous Replication as follows:

- CLX/XP (v3.0.1 or later) must be installed on storage management station running either Microsoft Windows Server 2003 or Microsoft Windows Server 2008
- Matrix recovery management supports any XP array that is supported by CLX/XP

NOTE: For the latest list of 3PAR, EVA, and XP Storage Systems supported by CLX, see the following website:

http://www.hp.com/go/clx

Matrix recovery management supports P6000/EVA family storage solutions with Continuous Access Synchronous and Asynchronous Replication.

HP Virtual Connect Enterprise Manager hardware requirements

Table 30 (page 35) lists hardware requirements for Virtual Connect Enterprise Manager.

Table 30 Virtual Connect Enterprise Manager hardware requirements

Component	Minimum requirement
Virtual Connect Ethernet modules	• HP Virtual Connect 1/10 Gb Ethernet Module • HP Virtual Connect 1/10 Gb-F Ethernet Module • HP Virtual Connect Flex-10 10 Gb Ethernet Module • HP Virtual Connect Flex-10/10D Module for BladeSystem c-Class
Virtual Connect Fibre Channel modules	• HP Virtual Connect 4 Gb Fibre Channel Module • HP Virtual Connect 8 Gb 24-port Fibre Channel Module • HP Virtual Connect 8 Gb 20-port Fibre Channel Module
Virtual Connect FlexFabric	• HP Virtual Connect FlexFabric 10Gb/24-port Module for c-Class BladeSystem

Other supported hardware

As a general rule, Insight Management supports all the following items, and their plug-in equivalents, assuming that they are installed with the latest firmware and drivers.

- External Ethernet switches
- Embedded network interface cards (NICs)
- Smart Array controllers, host bus adapters (HBAs)
- BladeSystem mezzanine card

For information on the storage controllers, converged network adapters (CNAs), and network interface cards (NICs) supported by Insight Control server migration, see Appendix B (page 69).

5 Managed system firmware requirements

This chapter provides the firmware recommendations for servers and devices that can be licensed and managed by Insight Management.

Service Pack for ProLiant

HP Service Pack for ProLiant (SPP) is a collection of individual systems software and firmware, offered as a solution for all the following HP ProLiant servers, including all Gen8 servers:

- HP BladeSystem c-Class ProLiant Server Blade
- HP ProLiant DL300, DL500, DL600[1], DL700, and DL900 series rack mount servers
- HP ProLiant ML300 and ML500 series tower servers
- HP ProLiant SL100[1], SL200[1], SL300, and SL4000 series scalable system servers

Updating servers, BladeSystems, and BladeSystem enclosures using the SPP with HP Smart Update Manager (HP SUM) is faster and more efficient because only the necessary components are preloaded.

The SPP is delivered as an ISO image. There are also six subsets, also delivered as ISOs. They are optimized by operating systems and ProLiant server types. Each subset version includes software and firmware smart components required for its specific audience and allows for a customized solution and a faster download. The ISOs available are:

- HP Service Pack for ProLiant
- BladeSystem Red Hat Enterprise Linux Pack
- BladeSystem SUSE Linux Enterprise Server Pack
- BladeSystem Microsoft Windows Server Pack
- ProLiant ML/DL/SL Red Hat Enterprise Linux Pack
- ProLiant ML/DL/SL SUSE Linux Enterprise Server Pack
- ProLiant ML/DL/SL Microsoft Windows Server Pack

Table 31 Service Pack for ProLiant

Service pack name	Version	Download from
HP Service Pack for ProLiant (SPP) For information on the contents on this service pack, see: www.hp.com/go/spp.	2012.08.0	www.hp.com/go/spp/download There you will find a consolidated download and six subsets optimized by OS and server type. Select the download for the version specified in the Version column from among the SPP downloads there.

ProLiant Support Pack

HP encourages the use of SPPs for HP ProLiant servers for this release. However, if you need to use the ProLiant Support Pack (PSP) or the HP Smart Update Firmware DVD (HP SUM), this is the last release in which you can still download the PSP and HP SUM from the HP Support & Drivers website:http://welcome.hp.com/country/us/en/support.html Download the ProLiant Support Pack PSP (version 9.10) and Smart Update Firmware DVD (version 10.10).

1. (Gen8 only)

NOTE: PSP version 9.10 and HP Smart Update Firmware DVD version 10.10 are the last versions that HP will make available for download. In the future, the contents of the PSP and Smart Update Firmware DVD will only be available through the SPP download.

Integrity Support Packs

Table 32 Integrity Support Packs

Support pack name	Version	Download from
HP Integrity Support Pack for Windows servers	7.1	Download the Integrity Support Packs and system firmware bundles for your server model and OS from the HP Support & Drivers website: http://welcome.hp.com/country/us/en/support.html
HP Integrity Essentials Foundation Pack for Linux Support Pack	4.23	
System firmware bundles are available for HP Integrity Superdome 2 servers, HP BL8x0c i2 servers, HP BL8x0c i4 servers, and HP rx2800 i2 servers	N/A	

Insight Management firmware recommendations

The HP Insight Management software was tested with the SPP version specified in Table 31 (page 36). The following table lists the key items of firmware and their versions that were used during Insight Management testing. Unless noted otherwise, the listed items are included in the SPP.. This list is not intended to indicate the full supported list of firmware for Insight Management. For details on compatibility and support of prior firmware versions, see the Insight Management documentation.

Table 33 Recommended firmware requirements for Insight Management

Item	Recommended firmware version
Onboard Administrator (OA) on the following HP BladeSystem enclosures: • c3000 • c3000 tower enclosure • c7000	HP recommends firmware version 3.60, but version 3.55 is supported.
Virtual Connect for BladeSystem c-Class	3.70
NOTE: To download Virtual Connect firmware only, go to the following website: http://h18004.www1.hp.com/products/blades/components/vc-interconnects.html For Virtual Connect firmware compatible with the Virtual Connect Enterprise Manager, see the *HP Virtual Connect Enterprise Manager User Guide* at the following website: http://www.hp.com/go/insightmanagement/sim/docs	
HP iLO 2 (iLO 2) for ProLiant BladeSystem	2.12
HP iLO 2 (iLO 2) Advanced for Integrity	3.18
HP iLO 3 (iLO 3) Advanced for ProLiant BladeSystem	1.28(B)
HP iLO 3 (iLO 3) Advanced for Integrity	01.53.02
iLO 4 Advanced for ProLiant BladeSystem	1.10
Baseboard Management Controller (BMC) Firmware	5.38
HP Smart Update Manager (HP SUM)	5.2.0

6 Software requirements for managed systems

This chapter lists the software that is supported on managed systems, including integration with HP companion software, operating systems, and hypervisors.

HP software integration requirements

Table 34 (page 38) lists HP software integration requirements with this release of Insight Management.

Table 34 HP Software integration requirements

HP Software product and version	Systems Insight Manager	Insight Control	Matrix OE
HP Cloud Service Automation for Matrix February 2012			✓
HP Server Automation (HP SA) 9.05, 9.06, 9.10, 9.11, 9.12, 9.13, 9.1 Satellite			✓
HP Operations Orchestration 9.0			✓
HP SiteScope 11.10			✓

Supported operating systems

This section lists the operating systems that are supported on managed systems.

VCEM supports all operating systems that Virtual Connect supports. To verify that a particular server blade that you place into a BladeSystem enclosure supports a specific OS, review the QuickSpecs for that server blade, which you can obtain by starting at this website:

http://www.hp.com/go/blades

Microsoft Windows

Table 35 Microsoft Windows Server 2008

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr	virt[1]	
Standard Editions[2]							
Microsoft Windows Server 2008, Standard Edition, x86	✓	✓	✓	✓	✓	N/A	
Microsoft Windows Server 2008, Standard Edition, x64	✓	✓	✓	✓	✓	N/A	
Microsoft Windows Server 2008, Standard Edition SP2, x86	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2008, Standard Edition SP2, x64	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2008 R2 Standard Edition (initial release)	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2008 R2 Standard Edition SP1	✓	✓	✓	✓	✓	N/A	✓
Datacenter Editions[2]							
Microsoft Windows Server 2008, Datacenter Edition, x86	✓		✓	✓	✓	N/A	
Microsoft Windows Server 2008, Datacenter Edition, x64	✓		✓		✓	N/A	

Table 35 Microsoft Windows Server 2008 *(continued)*

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr	virt[1]	
Microsoft Windows Server 2008, Datacenter Edition SP2, x86	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2008, Datacenter Edition SP2, x64	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2008 R2 Datacenter Edition (initial release)	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2008 R2 Datacenter Edition SP1	✓	✓	✓	✓	✓	N/A	✓
Enterprise Editions[2]							
Microsoft Windows Server 2008, Enterprise Edition, x86	✓	✓	✓	✓	✓	N/A	
Microsoft Windows Server 2008, Enterprise Edition, x64	✓	✓	✓	✓	✓	N/A	
Microsoft Windows Server 2008, Enterprise Edition SP2, x86	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2008, Enterprise Edition SP2, x64	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2008 R2 Enterprise Edition (initial release)	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2008 R2 Enterprise Edition SP1	✓	✓	✓	✓	✓	N/A	✓
HPC Server							
Microsoft Windows HPC Server 2008 R2	✓	✓		✓	✓	N/A	
Windows Server for Itanium-based systems							
Microsoft Windows Server 2008 for Itanium-based systems	✓				✓	N/A	
Microsoft Windows Server 2008 for Itanium-based systems SP2	✓				✓	N/A	✓[3]
Microsoft Windows Server 2008 R2 for Itanium-based systems	✓	✓			✓	N/A	✓[3]
Storage Server							
Microsoft Windows Storage Server 2008	✓					N/A	
Microsoft Windows Storage Server 2008 R2	✓					N/A	
Web Server							
Microsoft Windows Web Server 2008, x86	✓		✓			N/A	
Microsoft Windows Web Server 2008, x64	✓		✓			N/A	
Microsoft Windows Web Server 2008 SP2, x86	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Web Server 2008 SP2, x64	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2008 R2 Web Server (initial release)	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2008 R2 Web Server SP1	✓	✓	✓	✓	✓	N/A	✓

[1] IC–virt support does not apply to these operating systems.

[2] Support for Server Core installations of all these editions is limited to HP SIM.

[3] Matrix recovery management and Matrix infrastructure orchestration do not support Microsoft Windows running on Itanium based systems.

Table 36 Microsoft Windows Server 2003

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr	virt[1]	
Standard Editions							
Microsoft Windows Server 2003, Standard Edition SP1, x86	✓			✓	✓	N/A	
Microsoft Windows Server 2003, Standard Edition SP1, x64	✓			✓	✓	N/A	
Microsoft Windows Server 2003, Standard Edition SP2, x86	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2003, Standard Edition SP2, x64	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2003 R2, Standard Edition, x86	✓		✓	✓	✓	N/A	
Microsoft Windows Server 2003 R2, Standard Edition, x64	✓		✓	✓	✓	N/A	
Microsoft Windows Server 2003 R2, Standard Edition SP2, x86	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2003 R2, Standard Edition SP2, x64	✓	✓	✓	✓	✓	N/A	✓
Datacenter Editions							
Microsoft Windows Server 2003, Datacenter Edition SP1, x86	✓				✓	N/A	
Microsoft Windows Server 2003, Datacenter Edition SP2, x86	✓		✓	✓	✓	N/A	✓
Microsoft Windows Server 2003, Datacenter Edition SP2, x64	✓		✓	✓	✓	N/A	✓
Microsoft Windows Server 2003, Datacenter Edition SP1 for Itanium-based systems	✓				✓	N/A	
Microsoft Windows Server 2003, Datacenter Edition SP2 for Itanium-based systems	✓				✓	N/A	✓[4]
Microsoft Windows Server 2003 R2, Datacenter Edition, x86	✓		✓			N/A	
Microsoft Windows Server 2003 R2, Datacenter Edition, x64	✓		✓			N/A	
Microsoft Windows Server 2003 R2, Datacenter Edition SP2, x86	✓		✓		✓	N/A	✓[2]
Microsoft Windows Server 2003 R2, Datacenter Edition SP2, x64	✓		✓		✓	N/A	✓[2, 3]
Enterprise editions							
Microsoft Windows Server 2003, Enterprise Edition SP1, x86	✓			✓	✓	N/A	

Table 36 Microsoft Windows Server 2003 *(continued)*

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr	virt[1]	
Microsoft Windows Server 2003, Enterprise Edition SP1, x64	✓			✓	✓	N/A	
Microsoft Windows Server 2003, Enterprise Edition SP2, x86	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2003, Enterprise Edition SP2, x64	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2003, Enterprise Edition SP1 for Itanium based systems	✓				✓	N/A	
Microsoft Windows Server 2003, Enterprise Edition SP2 for Itanium-based systems	✓				✓	N/A	✓[4]
Microsoft Windows Server 2003 R2, Enterprise Edition, x86	✓		✓	✓	✓	N/A	
Microsoft Windows Server 2003 R2, Enterprise Edition, x64	✓		✓	✓	✓	N/A	
Microsoft Windows Server 2003 R2, Enterprise Edition SP2, x86	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2003 R2, Enterprise Edition SP2, x64	✓	✓	✓	✓	✓	N/A	✓
Web editions							
Microsoft Windows Server 2003, Web Edition SP1, x86	✓				✓	N/A	
Microsoft Windows Server 2003, Web Edition SP2, x86	✓	✓	✓	✓	✓	N/A	✓
Microsoft Windows Server 2003 R2, Web Edition, x86	✓		✓			N/A	
Microsoft Windows Server 2003 R2, Web Edition, x64	✓		✓			N/A	
Microsoft Windows Server 2003 R2, Web Edition SP2, x86	✓		✓		✓	N/A	✓
Microsoft Windows Server 2003 R2, Web Edition SP2, x64	✓		✓		✓	N/A	✓

[1] IC-virt support does not apply to these operating systems.

[2] Not supported by Matrix OE as a VMware guest OS.

[3] Matrix infrastructure orchestration does not support this OS for VMware ESX template-based provisioning.

[4] Matrix recovery management and Matrix infrastructure orchestration do not support Microsoft Windows running on Itanium based systems.

Table 37 Microsoft Windows Small Business Server operating systems

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr	virt[1]	
Microsoft Windows Small Business Server 2011							
Microsoft Windows Small Business Server 2011 Standard (initial release)	✓			✓		N/A	
Microsoft Windows Small Business Server 2011 Essentials (initial release)	✓			✓		N/A	

Table 37 Microsoft Windows Small Business Server operating systems *(continued)*

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr	virt[1]	
Microsoft Windows Small Business Server 2008							
Microsoft Windows Small Business Server 2008 Standard Edition (initial release)	✓					N/A	
Microsoft Windows Small Business Server 2008 Standard Edition SP2	✓					N/A	
Microsoft Windows Small Business Server 2008 Premium Edition	✓					N/A	
Microsoft Windows Small Business Server 2008 Premium Edition SP2	✓					N/A	
Microsoft Windows Small Business Server 2003							
Microsoft Windows Small Business Server 2003 R2, Standard Edition	✓					N/A	
Microsoft Windows Small Business Server 2003 R2, Standard Edition, SP2	✓					N/A	
Microsoft Windows Small Business Server 2003 R2, Premium Edition	✓					N/A	
Microsoft Windows Small Business Server 2003 R2, Premium Edition, SP2	✓					N/A	

[1] IC-virt support does not apply to these operating systems.

Table 38 Microsoft Windows Vista

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf[1]	pwr	virt[2]	
Microsoft Windows Vista Business SP2, x86	✓					N/A	
Microsoft Windows Vista Business SP2, x64	✓					N/A	
Microsoft Windows Vista Enterprise SP2, x86	✓					N/A	
Microsoft Windows Vista Enterprise SP2, x64	✓					N/A	

[1] Insight Control performance management supports x86 and x64 versions of Microsoft Windows Vista Business and Microsoft Windows Vista Enterprise on only ProLiant WS460c G6, ProLiant xw460c, and ProLiant xw2x220c workstation blades.

[2] IC-virt support does not apply to these operating systems.

Table 39 Microsoft Windows XP

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr	virt[1]	
Windows XP Professional SP3, x86	✓	✓		✓	✓	N/A	
Windows XP Professional SP2, x64	✓			✓		N/A	

[1] IC-virt support does not apply to these operating systems.

Table 40 Microsoft Windows 7

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr	virt[1]	
Microsoft Windows 7, Professional and Enterprise, x86	✓	✓[2]				N/A	
Microsoft Windows 7, Professional and Enterprise, x64	✓	✓[2]				N/A	

[1] IC-virt support does not apply to these operating systems.

[2] Insight Control server deployment supports this OS only on HP ProLiant WS460c G6 and WS460c G6-W workstations.

Linux

Table 41 Red Hat Enterprise Linux (RHEL)

OS version	SIM	Insight Control					Matrix OE
		depl	migr[1]	perf	pwr	virt[2]	
Red Hat Enterprise Linux 5							
RHEL 5.3 for x86	✓		✓	✓	✓	N/A	
RHEL 5.3 for AMD64 and Intel x86-64	✓		✓	✓	✓	N/A	
RHEL 5.3 for Intel Itanium [3]	✓				✓	N/A	✓[4]
RHEL 5.4 for x86	✓		✓	✓	✓	N/A	✓
RHEL 5.4 for AMD64 and Intel x86-64	✓		✓	✓	✓	N/A	✓
RHEL 5.4 for Intel Itanium[3]	✓				✓	N/A	✓[4]
RHEL 5.5 for x86	✓		✓	✓	✓	N/A	✓
RHEL 5.5 for AMD64 and Intel x86-64[5]	✓		✓	✓	✓	N/A	✓
RHEL 5.5 for Intel Itanium[3]	✓				✓	N/A	✓[4]
RHEL 5.6 for x86	✓		✓	✓	✓	N/A	✓
RHEL 5.6 for AMD64 and Intel x86-64	✓		✓	✓	✓	N/A	✓
RHEL 5.6 for Intel Itanium	✓				✓	N/A	✓[4]
RHEL 5.7 for x86	✓		✓	✓	✓	N/A	✓
RHEL 5.7 for AMD64 and Intel x86-64[6]	✓	✓	✓	✓	✓	N/A	✓
RHEL 5.7 for Intel Itanium	✓				✓	N/A	✓[4]
RHEL 5.8 for x86	✓	✓	✓	✓	✓	N/A	
RHEL 5.8 for AMD64 and Intel x86-64	✓	✓	✓	✓	✓	N/A	
RHEL 5.8 for Intel Itanium	✓				✓	N/A	✓[4]
Red Hat Enterprise Linux 6							

Table 41 Red Hat Enterprise Linux (RHEL) *(continued)*

OS version	SIM	Insight Control					Matrix OE
		depl	migr[1]	perf	pwr	virt[2]	
RHEL 6.0 for x86	✓		✓	✓[7]	✓	N/A	✓
RHEL 6.0 for AMD64 and Intel x86-64	✓		✓	✓[7]	✓	N/A	✓
RHEL 6.0 for Intel Itanium	✓				✓	N/A	✓[4]
RHEL 6.1 for x86[8]	✓	✓	✓	✓	✓	N/A	✓
RHEL 6.1 for AMD64 and Intel x86-64[8]	✓	✓	✓	✓	✓	N/A	✓
RHEL 6.1 for Intel Itanium[8]	✓	✓			✓	N/A	✓
RHEL 6.2 for x86	✓	✓	✓	✓	✓	N/A	✓
RHEL 6.2 for AMD64 and Intel x86-64	✓	✓	✓	✓	✓	N/A	✓
RHEL 6.2 for Intel Itanium		✓			✓	N/A	✓
RHEL 6.3 for x86	✓	✓	✓	✓	✓	N/A	✓
RHEL 6.3 for AMD64 and Intel x86-64	✓	✓	✓	✓	✓	N/A	✓
RHEL 6.3 for Intel Itanium		✓			✓	N/A	✓

[1] For the caveats associated with migrating Microsoft Windows server, see Appendix B (page 69) .

[2] IC-virt support does not apply to these operating systems.

[3] Integrity Linux SMX Provider 3.0 is a required WBEM Provider for Integrity Linux operating systems. SMX 3.0 requires RHEL 5.

[4] Matrix recovery management is not supported on any Linux operating systems that are running on Itanium systems.

[5] RHEL 5.5 is the minimum version supported on AMD Opteron 6100 servers.

[6] RHEL 5.7 is the minimum version supported on AMD Opteron 6200 servers.

[7] Insight Control performance management does not support RHEL 6.0 with KVM.

[8] Red Hat Linux 6.1 deployments to Thin provisioned Boot LUNs on EVA storage devices are not supported by Insight Management. Thin provisioned data LUNs are supported.

Table 42 SUSE Linux Enterprise Server (SLES)

OS version	SIM	Insight Control					Matrix OE
		depl	migr[1]	perf	pwr	virt[2]	
SUSE Linux Enterprise Server 10							
SLES 10 SP3 for x86	✓		✓	✓	✓	N/A	✓
SLES 10 SP3 for AMD64 and Intel x86-64	✓		✓	✓	✓	N/A	✓
SLES 10 SP3 for Intel Itanium[3]	✓				✓	N/A	✓[4]
SLES 10 SP4 for x86	✓	✓	✓	✓	✓	N/A	✓
SLES 10 SP4 for AMD64 and Intel x86-64	✓	✓	✓	✓	✓	N/A	✓
SLES 10 SP4 for Intel Itanium[3]	✓				✓	N/A	✓[4]
SUSE Linux Enterprise Server 11							
SLES 11 SP1 for x86[5]	✓	✓	✓	✓	✓	N/A	✓
SLES 11 SP1 for AMD64 and Intel x86-64[5]	✓	✓	✓	✓	✓	N/A	✓
SLES 11 SP1 for Intel Itanium[3, 5]	✓				✓	N/A	✓[4]
SLES 11 SP2 for x86	✓	✓	✓	✓	✓	N/A	✓

Table 42 SUSE Linux Enterprise Server (SLES) *(continued)*

OS version	SIM	Insight Control					Matrix OE
		depl	migr[1]	perf	pwr	virt[2]	
SLES 11 SP2 for AMD64 and Intel x86-64	✓	✓	✓	✓	✓	N/A	✓
SLES 11 SP2 for Intel Itanium[3, 5]	✓				✓	N/A	✓[4]

[1] For the caveats associated with migrating Linux servers, see Appendix B (page 69) .

[2] IC-virt support does not apply to these operating systems.

[3] Integrity Linux SMX Provider 3.0 is a required WBEM provider for Integrity Linux operating systems. SMX 3.0 requires SLES 10 or 11.

[4] Matrix recovery management is not supported on any Linux operating systems that are running on Itanium systems.

[5] SLES 11 SP1 requires an errata to support G7 and Gen8 servers.

Table 43 Other variants of Linux

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr	virt[1]	
Debian							
Debian 5.0	✓					N/A	
Debian 5.5	✓					N/A	
Oracle Enterprise Linux							
Oracle Enterprise Linux 5.2, x86	✓				✓	N/A	
Oracle Enterprise Linux 5.2 for AMD64 and Intel, x86-64	✓				✓	N/A	
Oracle Enterprise Linux 5.3, x86	✓				✓	N/A	
Oracle Enterprise Linux 5.3 for AMD64 and Intel, x86-64	✓				✓	N/A	
Oracle Enterprise Linux 5.4, x86	✓					N/A	
Oracle Enterprise Linux 5.4 for AMD64 and Intel, x86-64	✓					N/A	
Oracle Enterprise Linux 5.5, x86	✓					N/A	
Oracle Enterprise Linux 5.5 for AMD64 and Intel, x86-64	✓					N/A	
Oracle Enterprise Linux 5.6, x86	✓					N/A	
Oracle Enterprise Linux 5.6 for AMD64 and Intel, x86-64	✓					N/A	

[1] IC-virt support does not apply to these operating systems.

HP-UX, HP NonStop, and HP OpenVMS

For Insight Management products that support HP Integrity servers, HP 9000 servers, and HP NonStop servers, Table 44 (page 45) lists the HP operating systems that are supported on managed systems.

Table 44 HP operating systems: HP-UX, NonStop, and OpenVMS

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr[1]	virt	
HP-UX							
HP-UX 11i v2 (11.23 IA only)	✓				✓		✓[2]
HP-UX 11i v2 Update 2 (11.23 IA/PA)	✓				✓		✓[2]

Table 44 HP operating systems: HP-UX, NonStop, and OpenVMS *(continued)*

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr[1]	virt	
HP-UX 11i v3 (11.31)[3]	✓				✓		✓[4]
HP-UX 11i v3 (11.31) 1209	✓				✓		✓[4]
HP NonStop							
HP NonStop G-Series, G06.15 and later	✓						
HP NonStop H-Series, H06.04 and later	✓				✓		
HP NonStop J-Series, J06.03 and later	✓				✓[5]		
HP OpenVMS							
HP OpenVMS 8.3 1H1[6]	✓				✓		✓[7]
HP OpenVMS 8.4	✓				✓		✓[7]

[1] Licensing for Insight Control power management is provided through OpenVMS version 8.4 base operating environment (BOE) for Integrity servers only.

[2] Matrix recovery management and Matrix infrastructure orchestration are not supported on this HP-UX operating system.

[3] To support Integrity/HP-UX cross-technology logical server operations, this operating system requires the EFI and AVIO Storage and Networking patches.
The EFI patch (number is PHKL_41895 or later) is available at http://www.hp.com/go/hpsc.
The AVIO Storage and Networking software is available at http://software.hp.com (search for `AVIO`).

[4] Matrix recovery management is not supported on this HP-UX operating system.

[5] Power Regulator is supported on J06.14 and later.

[6] Integrity VM Manager was not tested with HP OpenVMS 8.3.

[7] Only Matrix OE visualization software, Capacity Advisor Consolidation software, and Global Workload Manager software support OpenVMS. Logical server operations, Matrix infrastructure orchestration software and Matrix recovery management software are not supported.

AIX, Solaris, and Netware

Table 45 IBM AIX

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr	virt	
IBM AIX Version 5.3	✓						
IBM AIX Version 6.1	✓						

Table 46 Oracle Solaris

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr	virt	
Oracle Solaris 8 Intel Platform	✓						
Oracle Solaris 9 Sparc	✓						
Oracle Solaris 9 Intel Platform	✓						
Oracle Solaris 10 Sparc	✓						
Oracle Solaris 10 Intel Platform	✓						
Oracle Solaris 11 Intel Platform	✓						

Table 47 Novell NetWare

OS version	SIM	Insight Control					Matrix OE
		depl	migr	perf	pwr	virt	
Novell NetWare 6.0	✓						
Novell NetWare 6.5	✓						

Supported hypervisor hosts and VM guests

Table 48 (page 47) lists hypervisor hosts and VM guests supported on managed systems.

Insight Control virtual machine management does not support VMware ESX or ESXi download editions or VMware ESX/ESXi servers without a valid license.

In Table 48 (page 47), the letter h (host) in a column means that the corresponding application supports this hypervisor running as a VM host. Similarly, the letter g (guest) in a column means that the corresponding application supports VM guests running under this hypervisor.

Integrity VM Manager supports on the Integrity VM hypervisors listed in Table 48 (page 47).

Table 48 Hypervisor hosts and VM guests

Hypervisor	SIM	Insight Control					Matrix OE[3]
		depl[1]	migr	perf	pwr[2]	virt	
Microsoft[4]							
Microsoft Windows Server 2008 SP2 with Hyper-V	h/g	h/g	g	g	h/g	h/g	h/g[5, 6]
Microsoft Windows Server 2008 R2 with Hyper-V	h/g	h/g	g	h/g	h/g	h/g	h/g[5, 6]
Microsoft Windows Server 2008 R2 SP1 with Hyper-V	h/g	h/g	g	h/g	h/g	h/g	h/g[5, 6]
Microsoft Windows Server 2008 R2 SP1 Server Core with Hyper-V	h/g						
Microsoft Hyper-V Server 2008 R2	h/g	h/g	g	h/g	h/g	h/g	h/g[5, 6]
Microsoft Hyper-V Server 2008 R2 SP1	h/g		g	h/g	h/g	h/g	h/g[5, 6]
Microsoft Hyper-V Server 2008 SP2	h/g	h/g	g	g	h/g	h/g	h/g[5, 6]
VMware							
VMware ESX 4.0 Update 2[7]	h/g		g	h/g	h/g	h/g	h/g
VMware ESX 4.0 Update 3[7]	h/g	h/g	g	h/g		h/g	h/g
VMware ESX 4.0 Update 4[7]	h/g		g	h/g	h/g	h/g	h/g
VMware ESX 4.1 Update 1[7]	h/g		g	h/g	h/g	h/g	h/g
VMware ESX 4.1 Update 2	h/g	h/g	g	h/g	h/g	h/g	h/g
VMware ESX 4.1 Update 3	h/g		g	h/g	h/g	h/g	h/g
VMware ESXi 4.0 Update 2[7]	h/g		g	h/g		h/g	h/g[8]
VMware ESXi 4.0 Update 3[7]	h/g		g	h/g		h/g	h/g[8]
VMware ESXi 4.0 Update 4[7]	h/g		g	h/g		h/g	h/g[8]
VMware ESXi 4.1 Update 1[7]	h/g		g	h/g		h/g	h/g[8]
VMware ESXi 4.1 Update 2	h/g	h/g	g	h/g		h/g	h/g[8]

Table 48 Hypervisor hosts and VM guests *(continued)*

Hypervisor	SIM	Insight Control					Matrix OE[3]
		depl[1]	migr	perf	pwr[2]	virt	
VMware ESXi 4.1 Update 3	h/g		g	h/g		h/g	h/g
VMware ESXi 5.0	h/g[9]	h	g	h/g		h/g	h/g[10]
VMware ESXi 5.0 Update 1	h/g	h/g	g	h/g		h/g	h/g[10]
VMware ESXi 5.1	h/g	h/g	g	h/g		h/g	h/g[10]
Integrity VM							
Integrity VM (with guests running a supported Integrity Microsoft Windows (Itanium) OS)	h/g				h/g		
Integrity VM (with guests running a supported Integrity Linux (Itanium) OS)	h/g				h/g		
Integrity VM (with guests running a supported HP-UX OS)[11]	h/g				h/g		h/g[12]
Xen							
Xen on RHEL 5.4, x86	h/g				h/g	h/g	
Xen on RHEL 5.4, x64	h/g				h/g	h/g	
Xen on RHEL 5.5, x86	h/g				h/g	h/g	
Xen on RHEL 5.5, x64	h/g				h/g	h/g	
Xen on RHEL 5.6, x86	h/g				h/g	h/g	
Xen on RHEL 5.6, x64	h/g				h/g	h/g	
Xen on RHEL 5.7, x86	h/g				h/g	h/g	
Xen on RHEL 5.7, x64	h/g				h/g	h/g	
Xen on RHEL 5.8, x86	h/g					h/g	
Xen on RHEL 5.8, x64	h/g					h/g	
Xen on SLES 10 SP3, x86	h/g				h/g	h/g	
Xen on SLES 10 SP3, x64	h/g				h/g	h/g	
Xen on SLES 10 SP4, x86	h/g				h/g	h/g	
Xen on SLES 10 SP4, x64	h/g				h/g	h/g	
Xen on SLES 11 SP1, x86	h/g				h/g	h/g	
Xen on SLES 11 SP1, x64	h/g				h/g	h/g	
Xen on SLES 11 SP2, x86	h/g					h/g	
Xen on SLES 11 SP2, x64	h/g					h/g	
KVM							
KVM on RHEL 5.5[13]	h/g						
KVM on RHEL 5.6[13]	h/g						
KVM on RHEL 5.7[13]	h/g						
KVM on RHEL 5.8	h/g	h/g					

Table 48 Hypervisor hosts and VM guests *(continued)*

Hypervisor	SIM	Insight Control					Matrix OE[3]
		depl[1]	migr	perf	pwr[2]	virt	
KVM on RHEL 6.1[13]	h/g						
KVM on RHEL 6.2	h/g	h/g					
KVM on RHEL 6.3	h/g	h/g					
KVM on SLES 11 SP 2	h/g	h/g					

[1] For virtual machine deployment, Microsoft Windows Server 2003 x86 or x64 and Microsoft Windows Server 2008 x86 or x64 can be deployed to a virtual machine created within one of the supported virtualization hosts, VMware ESX 3i, Microsoft Windows Server 2008 Hyper-V x86/x64, or Microsoft Windows Server 2008 R2 Hyper-V.

[2] Support notations in this column apply only to the shutdown action of DCPC.

[3] Matrix recovery management does not support failover of any Hypervisor hosts.

[4] Physical disks with multiple partitions are unsupported on Hyper-V unless all partitions except the first are excluded.

[5] Matrix recovery management supports only VMware ESX VM guests, standalone Hyper-V VM guests, and clustered Microsoft Hyper-V 2008 R2 VM guests on CSV .
For bidirectional failover configuration, you must install a Microsoft hot fix available at http://support.microsoft.com/?id=2720218

[6] Matrix infrastructure orchestration supports provisioning a Linux VM on Hyper-V, but IO does not personalize the VM. After provisioning, you must personalize the Linux VM. See the *HP Matrix Operating Environment Infrastructure Orchestration User Guide* for more information.

[7] VMware ESX and ESXi are not supported on ProLiant DL120 G7 and ML110 G7 servers.

[8] VMware ESXi cannot be deployed through Matrix infrastructure orchestration. VMware ESXi can be manually deployed through Insight Control server deployment.

[9] SIM will not install management agents on ESXi 5.

[10] VMware ESXi 5.0 and later can be deployed through Matrix infrastructure orchestration using VMware Auto Deploy. Alternatively, VMware ESXi 5.0 and later can be manually deployed through Insight Control server deployment.

[11] Integrity VM Host Version 4.3 (with patch), Integrity HP VM B.06.10 (with patches) and the following patches are required to support Integrity/HP-UX cross-technology logical server operations:

PHSS_42542 HPVM B.04.30 CORE PATCH - host (supersedes PHSS_42189)
PHSS_42543 HPVM B.04.30 VMMIGRATE PATCH — host
PHSS_42544 HPVM B.04.30 HPVM-VMSGTK — host
PHSS_42545 HPVM B.04.30 vmProvider PATCH (11.31) — host and guest
PHSS_42546 HPVM A.04.30 vmProvider PATCH (11.23) — guest
PHSS_42547 HPVM B.04.30 VMCONVERT — host

Patch for HPVM 6.10:
Patch PHSS_43030 is required to deploy Matrix infrastructure orchestration services containing HP Integrity VM version 6.1 shared guests.
These patches are available at http://www.hp.com/go/hpsc.

[12] For software requirements and restrictions, see Table 49 (page 50)

[13] Provides for the discovery or association of the host or guest on the CMS only.

HP Matrix Operating Environment infrastructure orchestration enables VMware vNetwork Distributed Switch (vDS) virtual switches in an ESX data center to be used without any limitation. For more information, see the *HP Matrix Operating Environment Infrastructure Orchestration User Guide*.

Table 49 (page 50) lists the Matrix OE software requirements and restrictions for Integrity virtual machine (VM) hosts that are running a supported HP-UX OS. For more information, see the HP Integrity Virtual Machines documentation:

http://www.hp.com/go/virtualization-manuals

Table 49 Matrix OE software requirements and restrictions for Integrity VM hosts running on HP-UX

Software requirements	Restrictions
HP-UX 11i v3 1209 with HPVM 6.1.5	Matrix recovery management does not support Integrity Virtual Machines.
HP-UX 11i v3 1203 with HPVM 6.1	Matrix recovery management does not support Integrity Virtual Machines.
Integrity Virtual Machines version 4.2.5 Virtual Provider Patch, which includes the following patches: **On the 11i v3 VM host:** • PHSS_41543 1.0 HPVM B.04.20.05 CORE PATCH **NOTE:** Installing the PHSS-41543 HPVM-CORE patch on the virtual machine host causes a reboot. Be sure to stop all guests before you install this patch: `# /sbin/init.d/hpvm stop` • PHSS_41191 1.0 HPVM B.04.20.05 VMMIGRATE PATCH • PHSS_41550 1.0 HPVM B.04.20.05 HPVM-VMSGTK • PHSS_41413 1.0 HPVM B.04.20.05 vmGuestLib • PHKL_41227 1.0 clock cumulative patch **On the 11i v3 VM guests:** • PHSS_41413 1.0 HPVM B.04.20.05 vmGuestLib • PHSS_41414 1.0 HPVM B.04.20.05 vmTools **On the 11i v2 VM guests:** • PHSS_41415 1.0 HPVM A.04.20.05 vmGuestLib (patch for A.04.20.05 VMGuestLib) • PHSS_41416 1.0 HPVM A.04.20.05 vmTools (patch for A.04.20.05 HPVM-Guest) **Logical Volume Manager (LVM) software:** Install LVM Version B.11.31.1010 from the HP Software Depot: http://software.hp.com To locate LVM, search for the keyword `LVM`.	Matrix OE logical server capabilities are supported on Integrity VM guests that are running only an HP-UX OS. Matrix infrastructure orchestration supports only HP-UX 11v3 guests.

HP recommends that you review the support matrices from your third-party hypervisor vendor to verify their current list of supported operating systems.

Table 50 (page 51) lists the supported versions of Microsoft System Center Virtual Machine Manager (SCVMM) and VMware vCenter Server (formerly VMware Virtual Center Server) on managed systems. SCVMM enables the migration of Hyper-V virtual machines; VMware vCenter enables the migration of VMware virtual machines.

Insight Control virtual machine management requires hosts to be registered with the Virtual Center server in order to be fully functional for managing that host. Likewise, Matrix OE requires hosts to be registered with Insight Control virtual machine management (and in turn with a Virtual Center server) in order to fully manage the host and guests and to deploy new guests.

Table 50 Virtualization Management Environment software

Version	SIM	Insight Control					Matrix OE
		depl	migr	perf[1]	pwr	virt	
Microsoft							
Microsoft System Center Virtual Machine Manager 2008 R2 SP1	✓			N/A		✓[2]	✓[3]
Microsoft System Center Virtual Machine Manager 2012	✓			N/A		✓[2]	✓[3]
VMware							
VMware vCenter Server v4.0 Update 2	✓		✓	N/A		✓	✓
VMware vCenter Server v4.0 Update 3	✓		✓	N/A		✓	✓
VMware vCenter Server v4.1 Update 1	✓		✓	N/A		✓	✓
VMware vCenter Server v4.1 Update 2	✓		✓	N/A		✓	✓
VMware vCenter Server v4.1 Update 3	✓		✓	N/A		✓	✓
VMware vCenter Server 5.0	✓		✓	N/A		✓	✓
VMware vCenter Server 5.0 Update 1b	✓		✓	N/A		✓	✓
VMware vCenter Server 5.1	✓		✓	N/A		✓	✓

[1] IC-perf support does not apply to this software.

[2] Insight Control virtual machine management supports only the deployment of templates through Microsoft System Center Virtual Machine Manager.

[3] Matrix infrastructure orchestration supports VM provisioning using Microsoft System Center Virtual Machine Manager (SCVMM) Hyper-V VM templates. For more information, see *HP Matrix Operating Environment Infrastructure Orchestration User Guide*.

HP Capacity Advisor Consolidation software requirements

Capacity Advisor Consolidation software supports the same servers, operating systems, and hypervisors as Matrix OE.

7 Agent and provider requirements for managed systems

Agents and providers bundled with Matrix OE

Table 51 (page 52) lists the agents and providers that are bundled with Matrix OE.

NOTES:

- Agents and providers for OpenVMS 8.3-1H1 are available by web release. Agents and providers for OpenVMS 8.4 are provided as part of the OpenVMS V8.4 Operating Environment DVD. For more information, see "Agents and providers for OpenVMS managed systems" (page 53).
- For proper discovery of Integrity SuperDome2 systems, the Virtual Partition bundle must be installed.

Table 51 Agents and providers bundled with Matrix OE

Agent	Operating system	Architecture	Matrix OE 7.1 Update 1 version
HP-UX agents and providers			
Application Discovery Agent	HP-UX	HP-UX 11i v2 and v3	A.7.1.0
gWLM Agent	HP-UX	HP-UX 11i v2 and v3	A.7.1.0
HPVM Guest Lib and Provider 4.3	HP-UX	HP-UX 11i v2 (HP Integrity)	A.04.30
HPVM Guest Lib and Provider 4.3	HP-UX	HP-UX 11i v3 (HP Integrity)	B.04.30
HPVM Guest Lib and Provider 6.1	HP-UX	HP-UX 11i v3	B.06.10
HPVM Guest Lib and Provider 6.1.5	HP-UX	HP-UX 11i v3	B.06.10.05
JRE	HP-UX	HP-UX 11i v2 and v3	1.5.0.12.00
nPartition Provider	HP-UX	HP-UX 11i v1	B.12.02.07.03
nPartition Provider	HP-UX	HP-UX 11i v2	B.23.01.07.05
nPartition Provider	HP-UX	HP-UX 11i v3	B.31.02.01
nPartition Provider	HP-UX	HP-UX 11i v3	B.31.02.04
nPartition Provider	HP-UX	HP-UX 11i v3	B.11.31.01.06
Utilization Provider	HP-UX	HP-UX 11i v2 and v3	A.01.08.07.00
vPar Provider	HP-UX	HP-UX 11i v1	B.11.11.01.06
vPar Provider	HP-UX	HP-UX 11i v2	B.11.23.01.07
vPar Provider	HP-UX	HP-UX 11i v3	B.11.31.01.05
`vseassist`	HP-UX	HP-UX 11i v2 and v3	A.7.1.0
WBEM Services	HP-UX	HP-UX 11i v1	A.02.07.06
WBEM Services	HP-UX	HP-UX 11i v2 and v3	A.02.09.04
Microsoft Windows agents and providers			
HPVM Provider	Microsoft Windows	HP Integrity	4.1.0.2

Table 51 Agents and providers bundled with Matrix OE *(continued)*

Agent	Operating system	Architecture	Matrix OE 7.1 Update 1 version
nPartition Commands	Microsoft Windows	HP Integrity	2.1.3.1
nPartition Provider	Microsoft Windows	HP Integrity	2.1.3.2
Utilization Provider[1]	Microsoft Windows	HP Integrity	1.8.5.2
`vseassist`	Microsoft Windows	HP ProLiant and non-HP x86 HP Integrity	7.1.0
WMI Mapper	Microsoft Windows	HP Integrity	7.1
Linux agents and providers			
Application Discovery Provider	Linux	Red Hat Enterprise Linux 5 (HP Integrity)	7.1.0
Application Discovery Provider	Linux	SUSE Linux Enterprise Server 10 (HP Integrity)	7.1.0
HPVM Guest kit and Provider	Linux	Red Hat Enterprise Linux 5 (HP Integrity)	4.0.1-2
HPVM Guest kit and Provider	Linux	SUSE Linux Enterprise Server 10 (HP Integrity)	4.1.0-1
nPartition Commands	Linux	Red Hat Enterprise Linux 5 (HP Integrity)	1.03.00-1
nPartition Commands	Linux	SUSE Linux Enterprise Server 10 (HP Integrity)	1.03.00-1
nPartition Provider	Linux	Red Hat Enterprise Linux 5 (HP Integrity)	1.07.01-1
nPartition Provider	Linux	SUSE Linux Enterprise Server 10 (HP Integrity)	1.07.01-1
`vseassist`	Linux	Red Hat Enterprise Linux 5 (HP ProLiant and non-HP x86) SUSE Linux Enterprise Server 10 (HP ProLiant and non-HP x86) SUSE Linux Enterprise Server 11 (HP ProLiant and non-HP x86)	7.1.0

[1] The Utilization Provider for Microsoft Windows is only installed to Integrity Windows managed systems from an HP-UX CMS. Data collection on a Windows CMS is agentless for all Windows managed systems.

Agents and providers for OpenVMS managed systems

This release of Matrix OE supports using Insight Virtualization Manager, Capacity Advisor, and Global Workload Manager with HP OpenVMS 8.3-1H1 and 8.4 systems managed from a Microsoft Windows CMS. The following agents and providers are required and are available for download from HP.

NOTE: The OpenVMS agents and providers are not bundled with Matrix Operating Environment, and the agent distributor does not install them on managed systems. You must download and install these agents and providers when you are using Matrix Operating Environment to manage OpenVMS systems from a Microsoft Windows CMS.

- **OpenVMS WBEM Services and WBEM Providers**

  Virtualization Manager and Capacity Advisor require the installation of HP WBEM Services and HP WBEM Provider to collect data from OpenVMS systems.

  For information on supported versions of HP WBEM Services and HP WBEM Providers, see the following website:

  http://h71000.www7.hp.com/openvms/products/insight_software/index.html

  You can download these WBEM kits and related documentation from the **HP Web-Based Enterprise Management (WBEM) services** link at the following website:

  http://www.hp.com/products/openvms/systemmanagement

  For the list of supported HP Integrity servers, see the OpenVMS WBEM Providers release notes.

- **OpenVMS gWLM Agent**

  Global Workload Manager requires the installation of OpenVMS gWLM Agent 4.1 on OpenVMS 8.3-1H1 and 8.4 managed systems. You can download the OpenVMS gWLM Agent 4.1 kit and documentation from the following website:

  http://h71000.www7.hp.com/openvms/integrity/integrity_gwlm.html

8 Support and other resources

Information to collect before contacting HP

Be sure to have the following information available before you contact HP:

- Software product name
- Hardware product model number
- Operating system type and version
- Applicable error message
- Third-party hardware or software
- Technical support registration number (if applicable)

How to contact HP

Use the following methods to contact HP:

- To obtain HP contact information for any country, see the Contact HP worldwide website:
  http://www.hp.com/go/assistance
- Use the `Contact hp` link on the HP Support Center:
  http://www.hp.com/go/hpsc
- In the United States, call +1 800 334 5144 to contact HP by telephone. This service is available 24 hours a day, 7 days a week. For continuous quality improvement, conversations might be recorded or monitored.

Registering for software technical support and update service

Insight Management includes one year of 24 x 7 HP Software Technical Support and Update Service. This service provides access to HP technical resources for assistance in resolving software implementation or operations problems.

The service also provides access to software updates and reference manuals, either in electronic form or on physical media as they are made available from HP. Customers who purchase an electronic license are eligible for electronic updates only.

With this service, Insight Management customers benefit from expedited problem resolution as well as proactive notification and delivery of software updates. For more information about this service, see the following website:

http://www.hp.com/services/insight

Registration for this service takes place following online redemption of the license certificate.

How to use your software technical support and update service

After you have registered, you will receive a service contract in the mail containing the Customer Service phone number and your Service Agreement Identifier (SAMOE). You need your SAMOE when you contact technical support and when visiting the Software Updates and Licensing portal.

As HP releases updates to software, the latest versions of the software and documentation are made available to you. The Software Updates and Licensing portal gives you access to software, documentation and license updates for products on your HP software support agreement.

You can access this portal from the HP Support Center:

http://www.hp.com/go/hpsc

After creating your profile and linking your support agreements to your profile, see the Software Updates and Licensing portal at http://www.hp.com/go/hpsoftwareupdatesupport to obtain software, documentation, and license updates.

Warranty information

HP will replace defective delivery media for a period of 90 days from the date of purchase. This warranty applies to all Insight Management products.

HP authorized resellers

For the name of the nearest HP authorized reseller, see the following sources:

- In the United States, see the HP U.S. service locator website:
  http://www.hp.com/service_locator
- In other locations, see the Contact HP worldwide website:
  http://welcome.hp.com/country/us/en/wwcontact.html

Documentation feedback

HP welcomes your feedback. To make comments and suggestions about product documentation, send a message to:

docsfeedback@hp.com

Include the document title and manufacturing part number in your message. All submissions become the property of HP.

New and changed information in this edition

- The chapter "Managed system hardware and firmware requirements" in previous versions of this document was separated into two separate chapters, "Hardware requirements for managed systems" (page 21) and "Managed system firmware requirements" (page 36).
- There is a new section in "Hardware requirements for managed systems" (page 21) specifically for "Supported hardware storage products" (page 30)
- Many tables in this document now incorporate "subheadings" to organize entries by editions or manufacturers.

Related information

- Hardware and software requirements for other related HP products:
  - The *HP Insight Control for Microsoft System Center Support Matrix* is available from the Insight Control Information Library:
    http://www.hp.com/go/insightcontrol/docs
  - The *HP Insight Control for VMware vCenter Server User Guide* lists hardware and software requirements, and it is available from the Insight Control Information Library:
    http://www.hp.com/go/insightcontrol/docs
  - The *HP iLO QuickSpecs* contain support information and are available from the iLO product website:
    http://www.hp.com/go/ilo
- HP ProLiant servers:
  - ProLiant BL BladeSystem servers:
    http://www.hp.com/go/blades

- ProLiant DL series rack mount servers:
  http://www.hp.com/servers/dl
- ProLiant ML series tower servers:
  http://www.hp.com/servers/ml
- ProLiant SL series scalable system servers:
  http://h10010.www1.hp.com/wwpc/us/en/sm/WF02a/15351-15351-3896136.html

- HP Integrity servers: http://www.hp.com/go/integrity
- HP NonStop servers: http://www.hp.com/go/nonstop

Typographic conventions

This document uses the following typographical conventions:

Book title	The title of a book. On the web, this can be a hyperlink to the book itself.
`Command`	A command name or command phrase, for example `ls -a`.
`Computer output`	Information displayed by the computer.
`ENVIRONMENT VARIABLE`	The name of an environment variable, for example, `PATH`.
Term	A term or phrase that is defined in the body text of the document, not in a glossary.
`User input`	Indicates commands and text that you type exactly as shown.
`Replaceable`	The name of a placeholder that you replace with an actual value.
...	Indicates that the preceding element can be repeated one or more times.
IMPORTANT	An alert that calls attention to essential information.
NOTE	An alert that contains additional or supplementary information.

A Hardware requirements and supported capabilities for Insight Control power management

This appendix describes the support requirements for Insight Control power management. The minimum firmware versions listed in this appendix apply only to power management. For firmware requirements that apply to the entire Insight Management stack, see "Managed system firmware requirements" (page 36).

The license redemption process for Insight Control generates separate license keys for all Insight Control capabilities, including power management, and generates the license keys for HP iLO Advanced and iLO Advanced for BladeSystem. To use Insight Control power management, you must apply an iLO Advanced license key to the server.

Power management capabilities

Insight Control power management provides the following power management capabilities:

- **Power Regulator** enables dynamic or static changes in CPU performance and power states. In dynamic mode, Power Regulator automatically adjusts the processor power usage and performance of a server to match CPU application activity. It improves server energy efficiency by giving CPUs full power for applications when they need it and enabling power savings without performance degradation when application activity is reduced. For more information, see the Power Regulator website:

  http://www.hp.com/servers/power-regulator
- **Dynamic Power Capping** reclaims trapped power and cooling capacity by safely limiting peak power consumption of servers.
- **Data Center Thermal Mapping** aggregates the data from thermal sensors in the servers and draws a thermal map of the room.
- **Power Metering** provides real-time measurements of actual power consumption so you can find and fix inefficiencies.
- **Calibrated Maximum Power** provides calibrated maximum power to enable power planning based on accurately measured peak potential power for each device instead of estimates.
- **Data Center Power Control** protects critical loads by reducing power to noncritical servers during cooling system failures. The features of Data Center Power Control available on the hardware are subject to the capabilities of the operating systems that are listed in Table 48 (page 47).
- **Intelligent Power Discovery** automatically detects the PDU and outlet that a server is plugged into.

Server requirements and supported capabilities for Insight Control power management

This section lists the servers on which power management is available as well as the power management requirements and supported power management capabilities. Support for specific power management capabilities varies by server model.

Table 52 Requirements and capabilities for HP ProLiant BL servers

Server model	Minimum iLO or OA firmware version	Minimum system BIOS version	Power Regulator	Dynamic Power Capping	Data Center Thermal Mapping	Power Metering	Calibrated Maximum Power	Data Center Power Control	Intelligent Power Discovery
ProLiant BL2x220 G5	[1]	8/5/2008	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL2x220c G6	iLO 2 version 1.79 or later	I24 8/15/2009	✓	✓	✓	✓	✓	✓	
ProLiant BL2x220c G7	Any version	I29 3/8/2010	✓	✓	✓	✓	✓	✓	
ProLiant BL260c	iLO 2 version 1.30 or later	2/14/2008	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL260c G5	[1]	8/5/2008	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL280c G6	iLO 2 version 1.79 or later	I22 1/27/2009	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL420c Gen8	iLO 4 version 1.01 or later		✓	✓	✓	✓	✓	✓	
ProLiant BL460c	[1]	8/5/2008	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL460c G5	[1]	8/5/2008	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL460c G6	iLO 2 version 1.79 or later	I24 8/15/2009	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL460c G7	iLO 3	I27 5/10/2010	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL460c Gen8	iLO 4 version 1.01 or later and OA version 3.50		✓	✓	✓	✓	✓	✓	
ProLiant BL465c	iLO 2 version 1.30 or later	11/18/2007	✓[3]		✓	✓	✓	✓	
ProLiant BL465c G5	[1]	8/5/2008	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL465c G6	iLO 2 version	Any version	✓	✓[2]	✓	✓	✓	✓	

Table 52 Requirements and capabilities for HP ProLiant BL servers *(continued)*

Server model	Minimum iLO or OA firmware version	Minimum system BIOS version	Power Regulator	Dynamic Power Capping	Data Center Thermal Mapping	Power Metering	Calibrated Maximum Power	Data Center Power Control	Intelligent Power Discovery
	1.79 or later								
ProLiant BL465c G7 (AMD Opteron 6100)	iLO 3 version 1.05	None	✓	✓	✓	✓	✓	✓	
ProLiant BL465c G7 (AMD Opteron 6200)	iLO 3 version 1.05	None	✓	✓	✓	✓	✓	✓	
ProLiant BL465c Gen8	iLO 4 version 1.01 or later		✓	✓	✓	✓	✓	✓	
ProLiant BL480c	iLO 2 version 1.30 or later	2/24/2008	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL490c G6	iLO 2 version 1.79 or later	I21 8/14/2009	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL490c G7			✓	✓	✓	✓	✓	✓	✓
ProLiant BL495c G5	[1]	8/5/2008	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL495c G6	iLO 2 version 1.79 or later	Any version	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL620c G7	iLO 3	I25 7/9/2010	✓	✓	✓	✓	✓	✓	
ProLiant BL660c Gen8	iLO 4 version 1.10 or later	I32 05/02/2012	✓	✓	✓	✓	✓	✓	✓
ProLiant BL680c G5	iLO 2 version 1.35 or later	10/18/2007	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL680c G7	Any version	I25 6/4/2010	✓	✓	✓	✓	✓	✓	
ProLiant BL685c G1	iLO 2 version 1.30 or later	11/17/2007	✓[3]		✓	✓		✓	
ProLiant BL685 G5	iLO 2 version	1/29/09	✓	✓[2]	✓	✓	✓	✓	

Table 52 Requirements and capabilities for HP ProLiant BL servers *(continued)*

Server model	Minimum iLO or OA firmware version	Minimum system BIOS version	Power Regulator	Dynamic Power Capping	Data Center Thermal Mapping	Power Metering	Calibrated Maximum Power	Data Center Power Control	Intelligent Power Discovery
	1.30 or later								
ProLiant BL685c G6	iLO 2 version 1.79 or later	A17 5/7/2009	✓	✓[2]	✓	✓	✓	✓	
ProLiant BL685c G7 (AMD Opteron 6100)	iLO 3 version 1.05 and OA version 3.10	None	✓	✓	✓	✓	✓	✓	
ProLiant BL685c G7 (AMD Opteron 6200)	iLO 3 version 1.05 and OA version 3.10	None	✓	✓	✓	✓	✓	✓	

[1] For Enclosure Dynamic Power Capping, iLO 2 version 1.70 or later. Otherwise, iLO 2 version 2 1.30 or later.
For Enclosure Dynamic Power Capping, OA 2.30 or later. Otherwise, OA 1.30 or later.

[2] When you are implementing power capping for HP BladeSystem, HP recommends that you use Enclosure Dynamic Power Capping set through the Onboard Administrator or Insight Control power management user interface. To use Enclosure Dynamic Power Capping, you must upgrade your iLO 2 firmware to version 1.70 or later and iLO 3 to version 1.0 or later. HP recommends that you update your system ROM to version 10/1/2008 or later for iLO 2, and May 2010 or later for iLO 3 for G7 servers. For some older BL460c servers, the iLO 2 firmware might not be able to automatically update the Dynamic Power Capping hardware circuit. In these instances, the Onboard Administrator will compensate for the absence of the internal hardware circuit and continue to guarantee circuit protection.

[3] This server model does not support HP Dynamic Power Savings mode.

Table 53 Requirements and capabilities for HP ProLiant workstation blades

Server model	Minimum iLO or OA firmware version	Minimum system BIOS version	Power Regulator	Dynamic Power Capping	Data Center Thermal Mapping	Power Metering	Calibrated Maximum Power	Data Center Power Control	Intelligent Power Discovery
ProLiant xw2x220c	iLO 2 version 1.60 or later. OA version 2.30 or later.	8/5/2008	✓	✓[1]	✓	✓	✓	✓	
ProLiant xw460c	iLO 2 version 1.30 or later	7/31/2007	✓	✓[2]	✓	✓	✓	✓	
ProLiant WS460c G6	iLO 2 version 1.30 or later	7/31/2007	✓	✓	✓	✓	✓	✓	
ProLiant WS460c Gen8	iLO 4 version 1.10 or later	I31 05/23/2012	✓	✓	✓	✓	✓	✓	

[1] This server supports only Power Capping. It does not support Dynamic Power Capping.

[2] When you are implementing power capping for HP BladeSystems, HP recommends that you use Enclosure Dynamic Power Capping set through the Onboard Administrator or Insight Control power management user interface. To use Enclosure Dynamic Power Capping, you must upgrade your iLO 2 firmware to version 1.70 or later and iLO 3 to version 1.0 or later. HP recommends that you update your system ROM to version 10/1/2008 or later for iLO 2, and May 2010 or later for iLO 3 for G7 servers. For some older BL460c servers, the iLO 2 firmware might not be able to automatically update the Dynamic Power Capping hardware circuit. In these instances, the Onboard Administrator will compensate for the absence of the internal hardware circuit and continue to guarantee circuit protection.

Table 54 Requirements and capabilities for HP ProLiant DL servers

Server model	Minimum iLO firmware version	Minimum system BIOS version	Power Regulator	Dynamic Power Capping	Data Center Thermal Mapping	Power Metering	Calibrated Maximum Power	Data Center Power Control	Intelligent Power Discovery
ProLiant DL320 G6[1]	None	None	✓	✓	✓	✓	✓	✓	
ProLiant DL360 G5	iLO 2 version 1.30 or later	5/1/2007	✓	✓[2]	✓	✓	✓	✓	
ProLiant DL360 G5 (with Quad Core "G-step" system board)	[3]	8/5/2008	✓	✓	✓	✓	✓	✓	
ProLiant DL360 G6	iLO 2 version 1.79 or later	P64 8/2/2009	✓	✓	✓	✓	✓	✓	✓
ProLiant DL360 G7	iLO 3 version 1.0 or later	4/1/2010	✓	✓	✓	✓	✓	✓	✓
ProLiant DL360e Gen8	iLO 4 version 1.01 or later		✓	✓	✓	✓	✓	✓	✓
ProLiant DL360p Gen8	iLO 4 version 1.01 or later		✓	✓	✓	✓	✓	✓	
ProLiant DL365 G1	iLO 2 version 1.20 or later	6/1/2005	✓[4]		✓	✓		✓	
ProLiant DL365 G5	iLO 2 version 1.30 or later	2/21/2008	✓	✓[2]	✓	✓	✓	✓	
ProLiant DL370 G6	iLO 2 version 1.75	P63 1/27/2009	✓	✓	✓	✓	✓	✓	✓
ProLiant DL380 G5	iLO 2 version	5/1/2007	✓	✓[2]	✓	✓	✓	✓	

Table 54 Requirements and capabilities for HP ProLiant DL servers *(continued)*

Server model	Minimum iLO firmware version	Minimum system BIOS version	Power Regulator	Dynamic Power Capping	Data Center Thermal Mapping	Power Metering	Calibrated Maximum Power	Data Center Power Control	Intelligent Power Discovery
	1.70 or 2.30								
ProLiant DL380 G5 (with Quad Core "G-step" system board)	[3]	8/5/2008	✓	✓	✓	✓	✓	✓	
ProLiant DL380 G6	iLO 2 version 1.79 or later	P62 8/2/2009	✓	✓	✓	✓	✓	✓	✓
ProLiant DL380 G7	iLO 3 version 1.0 or later	4/1/2010	✓	✓	✓	✓	✓	✓	✓
ProLiant DL380e Gen8	iLO 4 version 1.01 or later		✓	✓	✓	✓	✓	✓	✓
ProLiant DL380p Gen 8	iLO 4 version 1.0 or later		✓	✓	✓	✓	✓	✓	✓
ProLiant DL385 G2	iLO 2 version 1.20 or later	2/19/2008	✓[4]		✓	✓		✓	
ProLiant DL385 G5	iLO 2 version 1.30 or later	2/19/2008	✓	✓[2]	✓	✓	✓	✓	
ProLiant DL385 G5p	iLO 2 version 1.30 or later	2/19/2008	✓	✓[2]	✓	✓	✓	✓	
ProLiant DL385 G7 (AMD Opteron 6100)	iLO 3 version 1.0 or later	4/1/2010	✓	✓	✓	✓	✓	✓	✓
ProLiant DL385 G7 (AMD Opteron 6200)	iLO 3 version 1.0 or later	4/1/2010	✓	✓	✓	✓	✓	✓	✓
ProLiant DL385p Gen8	iLO 4 version 1.01 or later		✓	✓	✓	✓	✓	✓	✓

Table 54 Requirements and capabilities for HP ProLiant DL servers *(continued)*

Server model	Minimum iLO firmware version	Minimum system BIOS version	Power Regulator	Dynamic Power Capping	Data Center Thermal Mapping	Power Metering	Calibrated Maximum Power	Data Center Power Control	Intelligent Power Discovery
ProLiant DL560 Gen8	iLO 4 version 1.10 or later	P77 03/29/2012	✓	✓	✓	✓	✓	✓	✓
ProLiant DL580 G7	iLO 3 version 1.07 or later	4/16/2010	✓		✓	✓	✓		
ProLiant DL585 G7 (AMD Opteron 6100)	iLO 3 version 1.0 or later	4/1/2010	✓	✓	✓	✓	✓	✓	✓
ProLiant DL585 G7 (AMD Opteron 6200)	iLO 3 version 1.0 or later	4/1/2010	✓	✓	✓	✓	✓	✓	✓
ProLiant DL980 G7	iLO 3 version 1.5 or later		✓	✓	✓	✓	✓	✓	✓

[1] This server supports only power/thermal monitoring and capping with certain power-supply options. For detailed requirements, see the server QuickSpecs.

[2] This server supports only Power Capping. It does not support Dynamic Power Capping.

[3] For Dynamic Power Capping, iLO 2 version 1.70 or later. Otherwise, iLO 2 version 1.30 or later.

[4] This server model does not support HP Dynamic Power Savings mode.

Table 55 Requirements and capabilities for HP ProLiant ML servers

Server model	Minimum iLO firmware version	Minimum system BIOS version	Power Regulator	Dynamic Power Capping	Data Center Thermal Mapping	Power Metering	Calibrated Maximum Power	Data Center Power Control	Intelligent Power Discovery
ProLiant ML110 G7	None	None	✓	[1]	✓	✓	✓	✓	
ProLiant ML310e Gen8	iLO 4 version 1.10 or later	J04 05/26/2012							✓
ProLiant ML330 G6[2]	None	None	✓	✓	✓	✓	✓	✓	
ProLiant ML350 G5	iLO 2 version 1.30 or later	5/1/2007	✓	✓[3]	✓	✓	✓	✓	
ProLiant ML350 G6	iLO 2 version 1.79 or later	D22 2/23/2009	✓	✓	✓	✓	✓	✓	✓

Table 55 Requirements and capabilities for HP ProLiant ML servers *(continued)*

Server model	Minimum iLO firmware version	Minimum system BIOS version	Power Regulator	Dynamic Power Capping	Data Center Thermal Mapping	Power Metering	Calibrated Maximum Power	Data Center Power Control	Intelligent Power Discovery
ProLiant ML350e Gen8	iLO 4 version 1.01 or later		✓	✓	✓	✓	✓	✓	✓
ProLiant ML350p Gen8	iLO 4 version 1.01 or later		✓	✓	✓	✓	✓	✓	✓
ProLiant ML370 G5	iLO 2 version 1.30 or later	5/1/2007	✓	✓[3]		✓	✓	✓	
ProLiant ML370 G6	iLO 2 version 1.79 or later	P63 6/20/2009	✓	✓	✓	✓	✓	✓	✓

[1] You can purchase the RPS option to enable Dynamic Power Capping on this server.

[2] This server supports only power/thermal monitoring and capping with certain power-supply options. For detailed requirements, see the server QuickSpecs.

[3] This server supports only Power Capping. It does not support Dynamic Power Capping.

Table 56 Requirements and capabilities for HP ProLiant SL servers

Server model	Minimum iLO firmware version	Minimum system BIOS version	Power Topology	Power Regulator	Dynamic Power Capping	Data Center Thermal Mapping	Power Metering	Calibrated Maximum Power	Data Center Power Control	Intelligent Power Discovery
ProLiant SL230s Gen8	iLO 4 version 1.01		✓							
ProLiant SL250s Gen8	iLO 4 version 1.01		✓							
ProLiant SL270 Gen8	iLO 4 version 1.10 or higher	P75 05/11/2012	✓							
ProLiant SL4540 Gen8	iLO 4 version 1.10 or higher	P74 03/16/2012	✓							
ProLiant SL4545 G7	iLO 4 version 1.10 or higher	A31 05/11/2012	✓							

Table 57 Requirements and capabilities for HP Integrity servers

Server model	Minimum iLO or OA firmware version	Minimum system BIOS version[1]	Power Regulator	Dynamic Power Capping	Data Center Thermal Mapping	Power Metering	Calibrated Maximum Power	Data Center Power Control	Intelligent Power Discovery
Integrity BL860c	iLO 2 version T 02.05 or later	N/A	✓[2]		✓	✓		✓	
Integrity BL860c i2	None	None	✓[3]	✓[3]	✓	✓	✓	✓[4]	
Integrity BL860c i4	None	None	✓[5]	✓[3]	✓	✓	✓	✓[4]	
Integrity BL870c	iLO 2 version T 02.05 or later	N/A	✓[2]		✓	✓		✓	
Integrity BL870c i2	None	None	✓[3]	✓[3]	✓	✓	✓	✓[4]	
Integrity BL870c i4	None	None	✓[5]	✓[3]	✓	✓	✓	✓[4]	
Integrity BL890c i2	None	None	✓[3]	✓[3]	✓	✓	✓	✓[4]	
Integrity BL890c i4	None	None	✓[5]	✓[3]	✓	✓	✓	✓[4]	
Integrity rx2660	iLO 2 version F 02.05 or later	N/A	✓[2]		✓	✓		✓	
Integrity rx2800 i2	None	None	✓[3]	✓[3]	✓	✓	✓	✓[4]	
Integrity rx2800 i4	iLO3 version 53.30.32	2.15	✓	✓	✓	✓	✓	✓	
Integrity rx3600	iLO 2 version F 02.05 or later	N/A	✓[2]		✓	✓		✓	
Integrity rx6600	iLO 2 version F 02.05 or later	N/A	✓[2]		✓	✓		✓	
Integrity Superdome 2			✓		✓	✓	✓	✓[6]	

[1] The BIOS version does not apply to these servers.

[2] HP Power Regulator for Integrity servers requires Intel Itanium Processor 9100 series Dual-Core 1.6 GHz 18/24 MB parts. It also requires HP-UX 11.31 with patches PHKL_36654, PHKL_37031, PHKL_37032, PHKL_36477, and PHKL_36478, or Microsoft Windows Server 2008 with the "HP platform-controlled Power management" driver (other operating systems to be announced). If Microsoft Windows Server 2008 was factory-installed by HP, the driver is already installed. If you have installed Microsoft Windows Server 2008, then you must obtain the HP Smart Setup CD and manually install this Smart Component. The Smart Setup CD is available as part of the HP Integrity Essentials Foundation Pack for Microsoft Windows (T2369AA) or is available from http://www.hp.com under "Software and Driver downloads" for your platform.

[3] Requires iLO firmware version 01.40.42 or later.

[4] The DCPC Power ON/OFF action is not supported for this server.

[5] Requires iLO firmware version 53.70.02 or later.

[6] Supported for nPar only.

Table 58 Requirements and capabilities for HP Integrity NonStop servers

Server model	Minimum iLO firmware version	Minimum system BIOS version[1]	Power Regulator	Dynamic Power Capping	Data Center Thermal Mapping	Power Metering	Calibrated Maximum Power	Data Center Power Control	Intelligent Power Discovery
Integrity NonStop NB50000c	None	N/A			✓	✓		✓	
Integrity NonStop NB50000c-cg	None	N/A			✓	✓		✓	
Integrity NonStop NB54000c	None[2]	N/A	✓		✓	✓		✓	
Integrity NonStop NB54000c-cg	None[2]	N/A	✓		✓	✓		✓	
Integrity NonStop NS16x00	None	N/A						✓	
Integrity NonStop NX160000CG	None	N/A						✓	
Integrity NonStop NS14x00	None	N/A						✓	
Integrity NonStop NS5000cg	None	N/A						✓	
Integrity NonStop NS5000T	None	N/A						✓	
Integrity NonStop NS3000AC	None	N/A						✓	
Integrity NonStop NS2000	None	N/A						✓	
Integrity NonStop NS2000T	None	N/A						✓	
Integrity NonStop NS1x00	None	N/A						✓	

[1] The BIOS version does not apply to these servers.

[2] Minimum iLO firmware version for Power Regulator functionality is 1.40.42, which is included in system firmware bundle version 26.05

Supported power-delivery devices for Insight Control power management

Table 59 Supported power-delivery devices

Device	Minimum firmware version
Eaton Power Xpert Meter 8000	12.1.6
HP Intelligent Power Distribution Unit	None
HP PDR Management Module	P 1.00.10
HP PDU Management Module	1.00.14
Raritan Dominion PX (DPCS20A 30L6)	01.03.05

Table 59 Supported power-delivery devices *(continued)*

Device	Minimum firmware version
Raritan Dominion PX (PX-5532)	01.02.07
APC rPDU	v3.3.3
Liebert EM PDU Controller	2.rA
Eaton Powerware Switch ePDU	2.0.H
ServerTech Sentry Switch CDU	6.0g
IBM DPI PDU+	V0208001
HP UPS Management Module	2.0.05

B Hardware requirements and caveats for Insight Control server migration

This appendix lists the hardware requirements of Insight Control server migration and any associated caveats.

Storage controllers that Insight Control server migration supports

Insight Control server migration supports the storage controller devices shown in the following list. Migrations are not supported to a storage controller in AHCI mode.

Table 60 Storage controllers that Insight Control server migration supports

Storage controller	See footnote at end of table
HP 41B 4Gb PCIe to FC Single Port Host Bus Adapter	
HP 42B 4Gb PCIe to FC Dual Port Host Bus Adapter	
HP 8 Internal Port SAS Host Bus Adapter	
HP 81B PCIe 8Gb Fibre Channel Single Port Host Bus Adapter	
HP 81E 8Gb Single Port PCIe Fibre Channel Host Bus Adapter	
HP 81Q PCIe Fibre Channel Host Bus Adapter	
HP 82B PCIe 8Gb Fibre Channel Dual Port Host Bus Adapter	
HP 82E 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter	
HP 82Q 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter	
HP FC1142SR 4Gb PCIe Host Bus Adapter	
HP FC1242SR 4Gb PCIe DC Host Bus Adapter	
HP FC2142SR 4Gb PCIe Host Bus Adapter	
HP FC2242SR 4Gb PCIe DC Host Bus Adapter	
HP H210i 6GB SAS/SATA Host Bus Adapter (2x4 int, daughter card)	
HP H220i 6Gb SAS/SATA Host Bus Adapter (2x4 internal)	
HP H221 6Gb SAS/SATA Host Bus Adapter (2x4 external)	
HP H222 6GB SAS/SATA HBA (1x4 internal, 1x4 external)	
HP SC08Ge 2-ports Ext PCIe x8 SAS Host Bus Adapter	
HP SC40Ge Host Bus Adapter	
HP Smart Array B110i SATA RAID Controller	1
HP Smart Array B120i RAID Controller	1, 2
HP Smart Array B320i RAID Controller	1, 2
HP Smart Array E200 Controller	
HP Smart Array E200i Controller	
HP Smart Array E500 Controller	
HP Smart Array P212 Controller (4 internal, 4 external)	
HP Smart Array P220i Controller	

Table 60 Storage controllers that Insight Control server migration supports *(continued)*

Storage controller	See footnote at end of table
HP Smart Array P222 Controller	
HP Smart Array P400 Controller	
HP Smart Array P400i Controller	
HP Smart Array P410 Controller (8 internal, 0 external)	
HP Smart Array P410i Controller	
HP Smart Array P411 Controller (0 internal, 8 external)	
HP Smart Array P420 Controller	
HP Smart Array P420i Controller	
HP Smart Array P421 Controller	
HP Smart Array P600 Controller	
HP Smart Array P700m Controller	
HP Smart Array P711m Controller	
HP Smart Array P712m Controller	
HP Smart Array P721m Controller	3
HP Smart Array P800 Controller	
HP Smart Array P812 Controller	
HP Smart Array P822 Controller	
Broadcom HT1000 with SATA	
Brocade 804 8Gb FC HBA for HP BladeSystem c-Class	
Emulex LPe1105-HP 4Gb FC HBA for HP c-Class BladeSystem	4
Emulex LPe1205-HP 8Gb/s FC HBA for HP BladeSystem c-Class	4
Emulex LPe1205A-HP 8Gb/s FC HBA for HP BladeSystem c-Class	4
Intel 6300ESB/82801FR SATA Controller	
Intel 82801 GR SATA Controller	
Intel 82801JI (ICH10 Family) 4 port SATA MODE Controller	
QLogic QMH2462 4Gb FC HBA for HP c-Class BladeSystem	4
QLogic QMH2562 8Gb FC HBA for HP c-Class BladeSystem	4
HP Fibre Channel 8Gb QMH2572 Adapter	

[1] Only RAID mode is supported.

[2] Not supported with the RHEL 6.3 operating system.

[3] The following message is displayed when you specify the destination disks in step 5 of the migration wizard for HP Smart Array P721m Controller, however you can proceed with the migration: `HP Insight Control server migration has detected an unsupported configuration: Smart Array P721m Controller. Check the server migration support matrix for a list of supported configurations.`

[4] Migrations of the SLES 11 without service pack are not supported on this FC HBA.

Converged network adapters that Insight Control server migration supports

Table 61 Converged network adapters supported by Insight Control server migration

Converged network adapter		See footnote at end of table
HP FlexFabric10Gb 2-port 554FLB Adapter	FCoE	
HP FlexFabric10Gb 2-port 554FLB Adapter	iSCSI	[1]
HP FlexFabric 10Gb 2-port 554FLR-SFP+ Adapter	FCoE	
HP FlexFabric 10Gb 2-port 554FLR-SFP+ Adapter	iSCSI	[1]
HP FlexFabric10Gb 2-port 554M Adapter	FCoE	
HP FlexFabric10Gb 2-port 554M Adapter	iSCSI	[1]
HP CN1000E Dual Port Converged Network Adapter	FCoE	
HP CN1000E Dual Port Converged Network Adapter	iSCSI	[1]
HP CN1000Q Dual Port Converged Network Adapter	FCoE	
HP CN1000Q Dual Port Converged Network Adapter	iSCSI	[1]
HP CN1100E Dual Port Converged Network Adapter	FCoE	
HP CN1100E Dual Port Converged Network Adapter	iSCSI	[1]
HP NC551i Dual Port FlexFabric 10Gb Converged Network Adapter	FCoE	
HP NC551i Dual Port FlexFabric 10Gb Converged Network Adapter	iSCSI	[1]
HP NC551m Dual Port FlexFabric 10Gb Converged Network Adapter	FCoE	[2]
HP NC551m Dual Port FlexFabric 10Gb Converged Network Adapter	iSCSI	[1]
HP NC553i 10Gb 2-port FlexFabric Converged Network Adapter	FCoE	
HP NC553i 10Gb 2-port FlexFabric Converged Network Adapter	iSCSI	[1]
HP NC553m 10Gb 2-port FlexFabric Converged Network Adapter	FCoE	
HP NC553m 10Gb 2-port FlexFabric Converged Network Adapter	iSCSI	[1]

[1] Supported only by Microsoft Windows operating systems.

[2] To update the RBSU for servers with NC551m FCoE cards, disable `No_Execute Page-Protection` and AMD `Virtualization` for AMD-based processor and `Intel Hyper-Threading` for Intel-based processor on the **System Options→Processor Options** page.

Network interface cards that Insight Control server migration supports

Insight Control server migration supports the following NIC devices:

Table 62 Network interface cards that Insight Control server migration supports

Network Interface Card	See footnote at end of table
HP Ethernet 1Gb 4-port 331FLR Adapter	
HP Ethernet 1Gb 4-port 331i Adapter	
HP Ethernet 1Gb 4-port 331T Adapter	
HP Ethernet 1Gb 2-port 332T Adapter (BCM5720)	
HP Ethernet 1Gb 2-port 361FLB Adapter	
HP Ethernet 1Gb 2-port 361T Adapter	

Table 62 Network interface cards that Insight Control server migration supports *(continued)*

Network Interface Card	See footnote at end of table
HP Ethernet 1Gb 4-port 366M Adapter	
HP Flex-10 10Gb 2-port 530FLB Adapter	1
HP Ethernet 10Gb 2-port 530FLR-SFP+ Adapter	
HP Flex-10 10Gb 2-port 530M Adapter	
HP FlexFabric 10Gb 2-port 554FLB Adapter	
HP FlexFabric 10Gb 2-port 554FLR-SFP+ Adapter	1
HP FlexFabric 10Gb 2-port 554M Adapter	1
HP Ethernet 10Gb 2-port 560FLB Adapter (BLOM) (Niantic)	
HP Ethernet 10Gb 2-port 560SFP+ Adapter	
HP CN1000E Dual Port Converged Network Adapter	
HP CN1000Q Dual Port Converged Network Adapter	1
HP CN1100E Dual Port Converged Network Adapter	1
HP NC110T PCI-E Gigabit Server Adapter	
HP NC112i 1-port Server Adapter	
HP NC112T PCI-E Gigabit Server Adapter	
HP NC320i Integrated Gigabit Server Adapter	
HP NC324i Integrated Dual Port PCI Express Gigabit Server Adapter	
HP NC325m PCI Express Quad Port Gigabit Server Adapter	
HP NC326i Integrated Dual Port PCI Express Gigabit Server Adapter	
HP NC326m PCI Express Dual Port Gigabit Server Adapter	
HP NC330i (BCM5717)	
HP NC360m Dual Port 1GbE BL-c Adapter	
HP NC360T PCI Express Dual Port Gigabit Server Adapter	
HP NC362i Integrated Dual Port BL-c Gigabit Server Adapter	
HP NC364m Quad Port 1GbE BL-c Adapter	
HP NC364T PCI-E Quad Port Gigabit Server Adapter	
HP NC365T 4-port Ethernet Server Adapter	
HP NC366i Quad-Port Adapter	
HP NC370i HP BladeSystem Dual Multifunction Network Adapter	
HP NC371i Integrated PCI-X Multifunction Gigabit Server Adapter	
HP NC373F PCI-E Multifunction 1000SX Gigabit Server Adapter	
HP NC373i Integrated Multifunction Gigabit Server Adapter	
HP NC373m PCI Express Dual Port Multifunction Gigabit Server Adapter	
HP NC373T PCI-E Multifunction Gigabit Server Adapter	
HP NC375i Quad Port Gigabit Server Adapter	

Table 62 Network interface cards that Insight Control server migration supports *(continued)*

Network Interface Card	See footnote at end of table
HP NC375T PCI Express Quad Port Gigabit Server Adapter	
HP NC380T PCI-E Dual Port Multifunction Gigabit Server Adapter	
HP NC382i Integrated Dual Port PCI Express Gigabit Server Adapter	
HP NC382m PCI Express Dual Port Multifunction Gigabit Server Adapter	
HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	
HP NC510C PCI-E 10 Gigabit Server Adapter	
HP NC510F PCI-E 10 Gigabit Server Adapter	
HP NC512m Dual Port 10GbE Multifunction BL-c Adapter	
HP NC522m Dual Port 10GbE Multifunction BL-c Adapter	
HP NC522SFP Dual Port 10GbE Gigabit Server Adapter	
HP NC523SFP 10Gb 2-port Server Adapter	
HP NC524SFP Dual Port 10GbE Module	
HP NC532i Dual Port 10GbE Multifunction BL-c Adapter	
HP NC532m Dual Port 10GbE Multifunction BL-c Adapter	
HP NC542m Dual Port Flex-10 10GbE BL-c Adapter	
HP NC543i 2-port 4x QDR IB/10Gb Adapter	
HP NC550m 10Gb 2-port PCIe x8 Flex-10 Ethernet Adapter	
HP NC550SFP 10Gb 2-port PCIe x8 Ethernet Adapter	
HP NC551i Dual Port FlexFabric 10Gb Converged Network Adapter	1
HP NC551m Dual Port FlexFabric 10Gb Converged Network Adapter	1
HP NC552m 10Gb 2-port Flex-10 Ethernet Adapter	
HP NC552SFP 10Gb 2-port Ethernet Server Adapter	
HP NC552m 10Gb 2-port Flex-10 only Ethernet 10GbE Mezzanine Card for BL series Gen8 servers	
HP NC553i 10Gb 2-port FlexFabric Converged Network Adapter	1
HP NC553m 10Gb 2-port FlexFabric Converged Network Adapter	1
HP NC7170 Dual Port PCI-X Gigabit Server Adapter	
HP NC7771 Gigabit Server Adapter	
Broadcom 5719 quad port	

[1] Also a converged network adapter.

File system types that Insight Control server migration supports

Table 63 File system types that Insight Control server migration supports

Type of server migration	File system type
Microsoft Windows server	• NTFS • FAT 16/32
Linux server	• Ext2 • Ext3 • Ext4 • ReiserFS • Linux swap • LVM

Caveats for Microsoft Windows server migrations

Microsoft Windows Server 2008 migrations cannot be initiated from a Microsoft Windows Server 2003 x86 CMS.

Caveats for Linux server migrations

The following caveats apply to Linux server migrations:

- Migration of servers with the GRUB boot loader is supported.
- Migrations to Citrix are not supported.
- Migration of the following are not supported:
  - Para-virtualized kernels.
  - Software RAID — Ensure that none of the OS critical file systems are on a disk configured with software RAIDs.
  - Encrypted file systems.
  - Dual-mode Microsoft Windows and Linux.
  - Snapshot logical volumes.

Supported storage adapters for manual boot of a destination virtual machine

Table 64 Storage adapters supported for manual boot of a destination virtual machine

OS	LSI storage adapter	LSI SAS storage adapter	Bus Logic storage adapter
Microsoft Windows Server 2008	✓	✓	
Microsoft Windows Server 2003	✓		
Red Hat Enterprise Linux (RHEL)	✓		
SUSE Linux Enterprise Server (SLES)	✓		✓

C HP-UX CMS requirements

This appendix lists the hardware and software requirements for a CMS that is running HP-UX.

HP-UX CMS requirements

This section lists the following requirements for an HP-UX CMS:

- HP-UX CMS hardware requirements: Table 65 (page 75).
- HP-UX CMS software requirements: Table 66 (page 76).
- Managed system requirements — managing from an HP-UX CMS: Table 67 (page 77)

Table 65 HP-UX CMS hardware requirements

Supported servers	HP 9000 (PA-RISC 2.0) servers HP Integrity servers c-Class Integrity blades
Processors	• HP-UX 11i v2: At least 1.1 GHz (1.3 GHz or later recommended) Two or more processing cores are required (four cores recommended) • HP-UX 11i v3: At least 1.1 GHz (1.6 GHz or later recommended) Two or more processing cores are required (eight cores recommended)
Memory	HP-UX 11i v2: 5 GB RAM (8 GB RAM recommended for maximum hardware configuration) HP-UX 11i v3: 5 GB RAM (12 GB RAM recommended for maximum hardware configuration)
Disk space requirements: `/`	20 MB minimum for Systems Insight Manager
Disk space requirements: `/opt`	Systems Insight Manager requires 600 MB. Matrix Operating Environment requires an additional 200 MB.
Disk space requirements: `/var/opt`	Log files are stored in the directories `/var/opt/amgr`, `/var/opt/gwlm`, and `/var/opt/vse/logs`. These logs are not automatically trimmed. Capacity Advisor requires a maximum of 4 GB for every 100 workloads to maintain 4 years of historic data. This data is stored in the directory `/var/opt/vse`. You can modify the amount of data retained in data collection by modifying the `PROFILE_RETAIN_DAYS` variable. For details, see the *HP Capacity Advisor User Guide*.
Disk space requirements: database storage	Global Workload Manager requires at least 1 GB. If you intend to keep historical data, HP recommends allowing 4 GB for every 100 workloads that gWLM manages. If you are not interested in historical data, you can trim the historical database by using the following command: `gwlm history --truncate` If you are using the default Systems Insight Manager PostgreSQL database, this space will be allocated in `/var/opt`. If you are using Oracle, this space will be allocated on the Oracle database server.
Disk space requirements: swap space	4 GB total swap space for HP 9000 systems

Table 65 HP-UX CMS hardware requirements *(continued)*

	5 GB total swap space for HP Integrity systems
Enclosures	BladeSystem c3000 BladeSystem c3000 Tower BladeSystem c7000
NICs	c-Class embedded GbE NICs and mezzanine cards
HBAs	c-Class mezzanine FC HBAs (QLogic and Emulex)
Blade interconnects	Virtual Connect- Ethernet and Virtual Connect- Fibre Channel Cisco Ethernet switches outside enclosure (65xx, 29xx, 37xx) and inside enclosure
Shared boot storage: boot and data LUNs	MSA P2000fc HP EVA 4/6/8000; HP P6300/P6350/P6500/P6550

Table 66 HP-UX CMS software requirements

Operating systems	HP-UX 11i v2: OE/AR0409 or later (English, Japanese) HP-UX 11i v3: OE/AR0709 or later (English, Japanese)
Virtualization platforms	Integrity VM guest that is running HP-UX 11i v2 or 11i v3. An HP-UX CMS that is running in an Integrity VM guest supports Integrity VM versions 3.x and 4.x.
Databases	PostGreSQL 7.4.2 Oracle 10g (remote only)
Systems Insight Manager	Systems Insight Manager v7.1
Browsers	Microsoft Internet Explorer 9.x Microsoft Internet Explorer 8.x Mozilla Firefox 10.x Mozilla Firefox 9.x
Java	The gWLM agent requires JRE 1.5. Java Out-of-Box (JOOB) version 2.03 or later is required. JOOB is shipped with HP-UX as optional selectable software. Installation of JOOB requires a reboot.
Perl	v5.8.2 or later
gWLM data access from OpenView Performance Agent	To allow OpenView Performance Agent access to the gWLM data, the MeasureWare.`PERFDSI` file set (version C.03.85 or later) must be installed. The following command lists the file set if it is installed on the system: `/usr/sbin/swlist MeasureWare.PERFDSI` If this file set is not installed, it is available for installation as part of HP GlancePlus/UX Pak version C.03.85.00 or later.
CMS as a managed system	If the CMS is also a managed system, then all of the additional requirements for managed systems apply to the CMS. For those requirements, see Table 67 (page 77).

NOTE:

- HP Matrix OE logical server management and HP Matrix Operating Environment infrastructure orchestration are not supported under an HP-UX CMS.
- A Matrix Operating Environment HP-UX CMS does not support managing x86 systems.

Table 67 (page 77) lists the requirements for managed systems when managing from an HP-UX CMS.

Table 67 Requirements for managed system — managing from an HP-UX CMS

Supported servers	c-Class Integrity blades (Windows, Linux, HP-UX) HP Integrity servers (non-blade) HP 9000 (PA-RISC 2.0) servers
Enclosures	BladeSystem c3000 BladeSystem c3000 Tower BladeSystem c7000
NICs	c-Class embedded GbE NICs and mezzanine cards
HBAs	c-Class mezzanine FC HBAs (QLogic and Emulex)
Blade interconnects	Virtual Connect Ethernet and Virtual Connect Fibre Channel Cisco Ethernet switches outside enclosure (65xx, 29xx, 37xx) and inside enclosure
Shared boot storage: boot and data LUNs	MSA P2000fc HP EVA 4/6/8000; HP P6300/P6350/P6500/P6550
Operating systems	Microsoft Windows Server 2008 for Itanium-based systems SP2 Microsoft Windows Server 2008 R2 for Itanium-based systems SP2 RHEL 5.2 for Intel Itanium RHEL 5.3 for Intel Itanium SLES 10 SP2 for Intel Itanium SLES 10 SP3 for Intel Itanium HP-UX 11i v2 Update 2 (11.23 IA/PA) HP-UX 11i v3
Virtualization platforms	Integrity VM guest that is running a supported operating system (HP-UX, Integrity Windows, Integrity Linux)
Other requirements	Virtual Connect 3.70 iLO2 3.15 Onboard Administrator 3.60 HP WBEM Services for HP-UX: A.02.00 minimum required; A.02.09.04 or later recommended for security and performance improvements. OpenPegasus 2.5 required for Linux. WMI Mapper for Integrity Windows v2.7.0.0 required for Integrity Windows managed systems.
For each of the providers and agents listed in the remainder of this table, HP recommends that you update to the latest version provided in this release unless otherwise noted. For more information, see Table 51 (page 52).	
Utilization Provider	The Utilization Provider is required on all Matrix Operating Environment managed systems. It provides utilization data for Virtualization Manager and Capacity Advisor. Table 51 (page 52) lists the latest version of the Utilization Provider provided with this release of the Matrix Operating Environment.

Table 67 Requirements for managed system — managing from an HP-UX CMS *(continued)*

Application Discovery WBEM Provider	The Application Discovery WBEM Provider version A.04.01 or later is required on all systems that Application Discovery will manage. For the latest version, see Table 51 (page 52).
gWLM Agent	The gWLM agent is required on all systems that gWLM will manage. For details on the appropriate version(s) of gWLM, see *HP Global Workload Manager User Guide*. HP recommends that you upgrade to the latest version of the gWLM agent. For the latest version, see Table 51 (page 52).
nPartition Provider	Install this software on HP-UX managed systems even if the system does not use nPartitions. • HP-UX 11i v2 on HP 9000 requires version B.23.01.07.05 or later. • HP-UX 11i v2 on HP Integrity requires version B.23.01.07.05 or later. • HP-UX 11i v3 requires version B.31.02.01 or later. For the latest version, see Table 51 (page 52).
VM Provider	You must install VM Provider version 1.20 or later on HP Integrity VM host systems. You can use earlier versions of the VM Provider on individual virtual machines. Installed versions of HP Integrity Virtual Machines, VM Provider, and VMGuestLib must be compatible. Do not mix different versions of these components on the same system. For the latest version of the VM Provider, see Table 51 (page 52). **IMPORTANT:** You cannot install the VM Provider on systems that are running HP-UX 11i v3 (B.11.31).

vPar Provider	The vPar Provider that was included with the March 2006 release of HP-UX 11i v2 (B.11.23) does not work properly. With the March 2006 version installed, Systems Insight Manager and Matrix Operating Environment do not discover and display virtual partitions correctly. The vPar Provider that is included with Matrix Operating Environment fixes this problem. However, it presents the same version number as the March 2006 version.
	This problem does not occur with the HP-UX 11i v3 (B.11.31) vPar Provider.
	You can fix this problem by executing the following command on each system where the vPar Provider has been installed:
	`/opt/wbem/bin/cimmof -n root/cimv2/vpar \`
	`/opt/vparprovider/mof/HPUX_VParLocalPartition.mof`
	Alternatively, on systems that are running HP-UX 11i v2, you can remove the installed version of the vPar Provider and install the version delivered with the Matrix Operating Environment (or forcibly reinstall the Matrix Operating Environment version).
	For the latest version of the vPar Provider, see Table 51 (page 52).

Agents and providers bundled with the Matrix Operating Environment

For a list of the agents and providers that are bundled with the Matrix Operating Environment, see Table 51 (page 52).

Acronyms and abbreviations

A

AHCI	Intel SATA Advanced Host Controller Interface
AVIO	Accelerated Virtual I/O

C

CMS	Acronym for the Central Management Server (CMS), the server on which HP Insight Management is installed
CNA	Converged Network Adapter
CSV	Cluster Shared Volume

D

DAS	Direct Attached Storage
DCPC	Data Center Power Control
depl	Abbreviation for HP Insight Control server deployment
DNS	Domain Name System

E

EFI	Extensible Firmware Interface
ePDU	Enclosure PDU

F

FAT	File Allocation Table
FC	Fibre Channel
FCoE	Fibre Channel over Ethernet

G

Gbe	Gigabit Ethernet
GRUB	GNU GRand Unified Bootloader

H

HBA	Host Bus Adapter

I

IDE	Integrated Drive Electronics
iLO	Acronym for HP iLO
Installer	Abbreviation for the HP Insight Management Installer
Integrated installer	Another name for the HP Insight Management Installer
iSCSI	Internet SCSI
ISO	International Organization for Standardization

J

JRE	Java Runtime Environment

L

LUN Logical unit number

LVM Logical Volume Manager

M

Matrix OE Abbreviation for HP Matrix Operating Environment, which includes recovery management, infrastructure orchestration, and visualization capabilities and the HP Global Workload Manager (gWLM) and HP Capacity Advisor software

migr Abbbreviation for HP Insight Control server migration

N

NAS Network Attached Storage

NFS Network File System

NPIV N_Port ID Virtualization

NTFS New Technology File System

P

PCIe PCI Express

PDR Power distribution rack. A rack module that divides redundant input power to several nearby racks.

PDU Power distribution unit. For more information, see *HP Insight Control Power Management User Guide* at the following website:

http://www.hp.com/go/insightcontrol/docs

perf Abbreviation for HP Insight Control performance management

pwr Abbreviation for HP Insight Control power management

PXE Preboot Execution Environment

R

RDM Raw Disk Mapping

RHEL Acronym for Red Hat Enterprise Linux, a Linux OS distributed by Red Hat, Inc.

rPDU Rack Mount PDU

S

SAS Serial Attached SCSI

SIM Acronym for HP Systems Insight Manager

SLES Acronym for SUSE Linux Enterprise Server, a Linux OS distributed by Novell, Inc.

SLVM Shared Logical Volume Manager

SMI-S Storage Management Initiative Specification

SPM Acronym for HP Storage Provisioning Manager

SSL Secure Sockets Layer

V

VCEM Acronym for HP Virtual Connect Enterprise Manager

virt Abbreviation for HP Insight Control virtual machine management

Virtual machine host A system that has a hypervisor installed to host virtual machines. A host machine can host more than one virtual machine.

VM Virtual machine

VMFS *See* VM file system.

W

WAIK Windows Automated Installation Kit

WinPE Windows Preinstallation Environment

WWN World Wide Name

Index

A

abbreviations and acronyms used in this document, 79

B

blade server
  supported as managed system, 21
BladeSystem
  enclosures, 21
  mezzanine card, 35
browser, 15

C

Capacity Advisor Consolidation software
  supported servers, operating systems, and hypervisors, 51
cluster
  configuring CMS in, 19
CMS
  acronym, 79
  browsers, 15
  configuring in a cluster, 19
  database, 15
  deprecated OS and hypervisor support, 5
  disk space requirements, 8
  firmwware requirements, 10
  hardware requirements, 7
  memory requirements, 7
  new OS and hypervisor support, 5
  software requirements, 10
  supported configurations, 16
  supported hypervisors, 12
  supported Microsoft Windows operating systems, 10
  unsupported configurations, 16

D

database
  supported on CMS, 15
Debian Linux, 45
depl
  abbreviation, 79
disk space
  on the CMS, 8
domain, 16

E

enclosure
  supported, 21
EVA array
  supported by Matrix recovery management, 35

F

failover cluster
  configuring CMS in, 19
fibre channel storage, 32
firmware recommendations
  for managed systems, 37

H

hardware requirement
  for managed systems, 21
  for the CMS, 7
high-availability environment
  configuring CMS in, 19
host bus adapter
  supported, 35
HP Integrity server
  supported as managed system, 21
HP ProLiant server
  supported as managed system, 21
hypervisor
  support deprecated in this release, 5
  support introduced in this release, 5
  supported on CMS, 12
hypervisor guest
  supported on managed systems, 49
  supported OS, 50
hypervisor host
  supported on managed systems, 49

I

iLO
  hardware and software requirements, 56
  QuickSpecs, 56
Insight Control for Microsoft System Center
  hardware and software requirements, 56
Insight Control for VMware vCenter Server
  hardware and software requirements, 56
Installer
  abbreviation, 79
Integrated Lights Out *see* iLO
Integrity Essentials Foundation Pack for Linux Support Pack, 37
Integrity server
  supported as managed system, 21
Integrity Support Pack for Windows servers, 37

L

LAN switch, 33
language support, 10

M

managed system
  deprecated OS and hypervisor support, 5
  firmware recommendations, 37
  hardware requirements, 21
  new OS and hypervisor support, 5
  requirements for Insight Control power management, 58
  software requirements, 38
  supported enclosures, 21
  supported hardware, 35

supported hypervisor hosts and guests, 49
supported operating systems, 38
supported servers, 21
Matrix Operating Environment
bundled agents and providers, 52
Matrix recovery management
storage array support, 34
memory
on the CMS, 7
Microsoft Failover Clustering, 19
Microsoft Windows domain, 16
Microsoft Windows OS
supported on CMS, 10
Microsoft Windows workgroup, 16
migr
abbreviation, 79

N
network interface card *see* NIC
NIC
supported , 35
supported by server migration, 71

O
operating system *see* OS
Oracle Linux, 45
OS
support deprecated in this release, 5
support introduced in this release, 5
supported languages, 10
supported on CMS, 10
supported on managed systems, 38
OS support on managed system
Debian, 45
HP-UX, 45
IBM AIX, 46
Microsoft Windows 7, 43
Microsoft Windows Server 2003, 40
Microsoft Windows Server 2008, 38
Microsoft Windows Small Business Server 2003, 42
Microsoft Windows Small Business Server 2008, 42
Microsoft Windows Small Business Server 2011, 41
Microsoft Windows Vista, 42
Microsoft Windows XP, 43
Novell NetWare, 47
Open VMS, 45
Oracle Solaris, 46
Red Hat Enterprise Linux, 44
SUSE Linux Enterprise Server (SLES), 44

P
perf
abbreviation, 79
ProCurve switch, 33
ProLiant server
supported as managed system, 21
pwr
abbreviation, 79

Q
QuickSpecs
iLO, 56

S
server
supported as managed system, 21
server blade
supported as managed system, 21
server migration
supported NICs, 71
supported storage array controllers, 69
service pack, 36
Service Pack for ProLiant, 36
SIM
abbreviation, 79
smart array controller
supported, 35
software requirement
for managed systems, 38
SPM
solutions supported by, 34
SPP, 36
storage array
supported, 35
storage array controller
supported for server migration, 69
Storage Provisioning Manager *see* SPM
support matrix
for related products, 56
switch recommendations, 32

T
typographic conventions, 57

V
VCEM
abbreviation, 79
virt
abbreviation, 79
Virtualization Management Environment software, 51
VLAN switch, 33
VMware vCenter Server software, 51

W
workgroup, 16